

ADVENTURES IN THE AIR



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BY

ARCHER WALLACE

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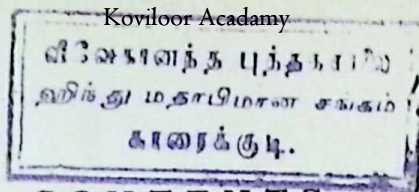
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UNIFORM WITH THIS VOLUME

- 1. Stories of Grit.**
- 2. Heroes of Peace.**
- 3. Hands Around the World.**
- 4. Poor Men Who Made us Rich.**

ONE RUPEE EACH

ADVENTURES IN THE AIR

CHAPTER I

The First Important Balloon Ascents

TOWARDS the end of the eighteenth century — in 1782 — two brothers, named Etienne and Joseph Montgolfier lived in the small town of Annonay, France. They were paper manufacturers, and one evening they noticed how pieces of paper, when placed over a fire, would rise up the chimney, and soon be lost sight of. They experimented with paper bags, left open at the bottom and held over burning paper. They held the bag until sufficient hot air had entered, then they released it, to see it speedily rise into the air. Again and again they tried the experiment, and greeted each ascent with shouts of delight and astonishment. Later they filled a bag with air and took it into the open, where it ascended to a height of seventy feet.

The Montgolfier brothers could not understand at first what made the bags rise. Eventually they grasped the idea that the balloons owed their buoyancy to the fact that the hot air within was lighter than the cold air outside. They made a larger balloon, and put a chafing

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dish inside with a small charcoal fire. The balloon arose and touched the ceiling, then, as the air within cooled, descended. In that very simple way the first balloons, forerunners of all aerial craft, made their first hesitating, uncertain journeys.

The brothers carried on their experiments in the garden, and soon discovered that the large balloons quickly lost their heat in the open air. Then they got the idea of having a chafing dish attached to the lower part of the balloon, hoping in that way to maintain a continual supply of heated air. Soon they had a balloon with a capacity of six hundred cubic feet, and, in spite of the protests of neighbours, who thought them crazy, they kept on increasing the size of their air-filled bags. When they found that the air escaped through the pores of the paper, they invented a new kind of vapour, made from the combustion of dampened straw and wood. They gave up using paper, and substituted a fabric made of cloth and coarse paper.

Great was their joy one day, when their balloon, after being filled with air, gave a mighty lurch, snapped all the moorings which bound it, and soared defiantly upward. Onlookers were astonished and alarmed, but the Montgolfiers greeted the achievement with cries of merriment. They did not understand

THE FIRST IMPORTANT BALLOON ASCENTS

much about the laws governing their huge toys, but they felt sure they were on the way to doing bigger things.

The brothers next made a monster balloon, thirty-five feet in diameter and having a capacity of over twenty-three thousand cubic feet. The lining was stronger than that of previous ones, and at the bottom was a short neck, held open by a light frame, so that it could be filled with air from the wooden attachment underneath it. This apparatus was suspended from the balloon by iron chains. On April 25, 1783, the balloon was given a trial, when it arose to a height of one thousand feet, and alighted in a field more than a mile away. Up till that time, much as men had experimented with balloons, nothing like this had ever been achieved, and so the Montgolfiers decided to give a public demonstration of their 'fire-bag,' and they sent out invitations to all their friends and notable people of France to witness what was destined to be a red-letter day in the history of aircraft.

June 5, 1783, was the day set for the great exhibition. It was not so easy, in those far-off days, to gather a crowd as it is now, but from early morning people began to gather in the marketplace of Annonay. Thousands came out of curiosity, for they had heard strange, and, what seemed to them, unbelievable stories

ADVENTURES IN THE AIR

about this novel balloon. The Montgolfiers were widely-known, but very few in the vast crowd believed that the balloon would live up to expectations.

In view of a somewhat panicky crowd, and one that included many scoffers, the brothers prepared a fire of straw and chopped wood in the marketplace. They told the incredulous people that soon the loose bag would be filled with air, and shoot up to a great distance. The mouth of the bag was held over a hole in the ground, in which the burning materials had been placed. Of the thousands gathered in the marketplace none had seen such a huge balloon. As it was filled and became distended their astonishment grew. At a given signal it was released, when it ascended until it had reached a height of six thousand feet before the straining eyes of a vast throng. It descended, and gently alighted at a point a mile and a half away. The brothers thus won a complete triumph; nothing like that had ever happened before, and those who came to laugh went away with wonder in their eyes.

Following the great triumph of June 5 by the Montgolfiers, interest in balloons was greatly stimulated. Two brothers, named Robert, assisted by a young scientist, Professor Charles, made a silk balloon, and spent four days filling it with hydrogen, which was produced

THE FIRST IMPORTANT BALLOON ASCENTS

by the action of sulphuric acid on iron filings. On August 27 they were ready to give their demonstration.

By this time interest had increased to fever heat. News of what the Robert brothers and Professor Charles were attempting had spread rapidly, and so great was the excitement of the populace that the balloon had to be moved by night from the Place des Victoires to Champs de Mars.

By five o'clock on August 27, over fifty



THE HARVESTERS FELL UPON THE BALLOON WITH
PITCHFORKS AND RIPPED IT TO PIECES

ADVENTURES IN THE AIR

thousand people had assembled to witness the experiment, although a rainstorm was soaking both the balloon and the spectators. A cannon boom announced that the ascent had begun. The balloon arose to a height of three thousand feet, and sailed gracefully over Paris to the village of Gonesce, some fifteen miles away.

It was harvest time and the villagers were working in the fields. When the balloon descended, the harvesters, believing it to be some monstrous animal, and encouraged in this belief by some superstitious monks, fell upon it with pitchforks and scythes, and so ripped it to pieces that soon only a few fragments of silk remained. This incident caused the French Government to issue a solemn warning against people doing any damage to strange gas bags sailing down from the skies.

The Montgolfiers, together with the Robert brothers and Professor Charles, became the most talked-of men in France. Etienne Montgolfier was summoned to Paris, and invited to describe his balloon to the Academy of Sciences and to give a practical experiment for the benefit of the members. He built a new balloon, much larger than its predecessor, and painted with most elaborate designs. It was shaped like a pear; seventy-two feet high and forty-one feet in diameter. It was exhibited before members of the Academy on September

THE FIRST IMPORTANT BALLOON ASCENTS

12, 1783, and took up a load, between four hundred and five hundred pounds, thus giving a faint hint of the ability of aircraft to carry passengers.

On September 19 a special demonstration was given at Versailles, with the King and Queen of France and many members of the Court in attendance. A basket was attached to the balloon, but it is said that the King was opposed to any of his subjects risking their lives by making the ascent. Another account says that no one could be found courageous enough to risk his life.

Someone hit upon the idea of substituting animals, so a cock, a duck and a sheep were placed in the basket. Thus burdened, the balloon did not rise as high as on the former ascent, but a height of fifteen hundred feet was attained, and the balloon landed two miles away without injuries to those first air passengers.—the cock, the duck and the sheep.

CHAPTER II

The First Balloon to Carry a Person

THE next step in the history of flying was that some person should make an ascent. The King of France was opposed to the idea ; he did not wish any of his subjects to risk their lives in that fashion. The balloons were made of linen and paper and a raging fire was carried below in the carriage, so that the danger of fire was considerable. The King was willing that convicts should try the ascent, but a gallant young Frenchman, Francois Pilatre des Roziers, was unwilling that the great honour of being the first to fly should be reserved for criminals, and his offer to fly was accepted.

The Montgolfiers constructed a special balloon for this daring experiment. It was seventy-four feet high and forty-eight feet in diameter. It was gaily decorated on the outside. The opening at the bottom was fifteen feet across, and this was surrounded by a wickerwork gallery three feet wide. Holes were made in the neck through which fuel could be thrown on to the brazier which was suspended from the balloon by iron chains. The whole apparatus weighed three-quarters of a ton.

THE FIRST BALLOON TO CARRY A PERSON

The first trials were 'captive ascents,' that is, heavy ropes prevented the balloon from getting free. On October 15, 1783, des Roziers eagerly stepped into the basket of the



THE BALLOON MADE ESPECIALLY FOR FRANCOIS
DES ROZIER

balloon, although alarmed friends tried to restrain him. The balloon rose to a height of eighty-four feet at which distance the ropes

ADVENTURES IN THE AIR

held it fast. After being in the air for four and a half minutes, des Roziers descended, keener than ever to try a free ascent. After several trial flights, rising on one occasion to a height of three hundred feet, permission was granted to des Roziers to make a free flight.

November 21, 1783 was the date set for this daring ascent. Interest in the event had reached fever heat, and a vast crowd gathered to watch the ascent from the Bois de Boulogne. The Marquis d'Arlandes had persuaded des Roziers to allow him to accompany him. It was a dull day with a strong north-west wind blowing. The start was unfortunate. The strong wind drove the balloon, which was held captive, against some mooring ropes, and the fliers were forced to make a hasty descent with their balloon badly torn. It looked as if the vast crowd was to be disappointed, but the ladies present set to work with their needles, and in less than two hours the tear was repaired. A few minutes before two o'clock the huge balloon was released, and amid a scene of great enthusiasm, the first 'free' flight began.

Fortunately, the Marquis d'Arlandes afterwards wrote a description of the experience to a friend in which he gave a most vivid account of that first famous air voyage. Here is a portion of the letter :

THE FIRST BALLOON TO CARRY A PERSON

‘We set off at 54 minutes past one o’clock. The balloon was so placed that M. des Roziers was on the west, and I on the east. The machine, says the public, rose with majesty. I think a few of them saw that, at the moment when it passed the hedge, it made a half turn, and we changed our positions which, thus altered, we retained to the end. I was astonished at the smallness of the noise and motion among the spectators occasioned by our departure. I thought they might be astonished and frightened and might stand in need of encouragement, so I waved my arm with small success, I then drew out and shook my handkerchief, and immediately perceived a great movement in the yard. It seemed as if the spectators all formed one mass, rushing by an involuntary motion towards the wall, which it seemed to consider as the only obstacle between us. At this moment M. des Roziers called out: “You are doing nothing, and we do not rise.”

‘I begged his pardon, took some straw, moved the fire and turned again quickly, but I could not find La Muette. In astonishment I followed the river with my eye, and at last found where the Oise joined it. Here then was Conflans; and, naming the principal bends of the river by the places nearest them, I repeated Poissy, St. Germain, St. Denis, Seve;

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then I am still at Poissy or Chaillot. Accordingly, looking down through the car, I saw the Visitation de Chaillot. M. Pilatre said to me at the moment :

“Here is the river, and we are descending.”

“Well, my friend,” I said, “more fire,” and we set to work. But instead of crossing the river, as our course towards the Invalides seemed to indicate, we went along the Ile des Cygnes, entered the principal bend again, and went upstream till we were above the barrier La Conference. I said to my brave associate :

“Here is the river, which is very difficult to cross.”

“I think so,” said he. “You are doing nothing.”

“I am not so strong as you,” I answered, “and we are well as we are.”

‘I stirred the fire, and seized a bundle of straw, which, being too much pressed, did not light well. I shook it over the flame, and an instant after I felt as if I had been seized under the arms, and said to my friend :

“We are rising now, however.”

“Yes! We are rising,” he answered, coming from the interior, where he had been seeing that all was right. At this moment I heard a noise high up in the balloon, which made me fear it had burst. I looked up, and saw nothing; but as I had my eyes fixed on

THE FIRST BALLOON TO CARRY A PERSON

the machine, I felt a shock, the first I had experienced. The shock was upwards, and I cried out, "What are you doing — are you dancing?"

"I am not stirring."

"So much the better," I said. "This must be a new current, which will, I hope, take us over the river." Accordingly, I turned to see where we were, and found myself between the Ecole Militaire and the Invalides, which we passed by about 600 yards.

'M. Pilatre said: "We are in the plain."

"Yes" I said, "we are getting on."

"Let us set to work," he replied. I heard a new noise in the machine, which I thought came from the breaking of a cord. I looked in and saw that the southern part was full of round holes several of them large. I said:

"We must get down."

"Why?"

"Look!" said I.

'At the same time I took my sponge and easily extinguished the fire which was enlarging such of the holes as I could reach, but on trying if the balloon were fast to the lower circle I found it easily came off. I repeated to my companion: "We must descend." He looked around him and said, "We are over Paris."

'Having looked to the safety of the cords,

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I said: "We can cross Paris." We were now coming near the roofs. We raised the fire and rose again with great ease. I looked under me and saw the Mission Etrangere, and it seemed as if we were going towards the towers of S. Sulpice, which I could see. We rose, and a current turned us south. I saw on my left a wood, which I thought was the Luxembourg. We passed the boulevard, and I called out: "Pied à terre!" (a resting place).

'We stopped the fire, but the brave Pilatre, who did not lose his self-possession, thought we were coming on to some mills and warned me. We alighted at the Butte aux Cailles, between the Moulin de Merveilles and the Moulin Vieux. The moment we touched land I held on by the car with my two hands. I felt the balloon press my head lightly. I pushed it off and leaped out. Turning towards the balloon, which I had expected to find full, to my great astonishment it was perfectly empty and flattened.'

The first aerial flight was soon followed by many others equally daring, both in Europe and in America, but to des Roziers belongs the credit of being the pioneer. On June 15, 1785, des Roziers and his brother constructed a hydrogen balloon and went up in an effort to fly from Boulogne to England. Many friends, including Prof. Charles, advised against the

THE FIRST BALLOON TO CARRY A PERSON

experiment, but they would not listen to them. The balloon rose to a height of seven hundred feet, and was then carried inland by a strong breeze. By some accident it caught on fire, and soon crashed to the ground. Des Roziers was instantly killed and his brother lived only a few minutes.

CHAPTER III

The First Aerial Traveller in Britain

THE adventures of the Montgolfier brothers and des Roziers greatly stimulated interest in flying and the balloon soon became a favourite toy in many countries. The first man to rise from British soil was Mr. J. Tyler who constructed a balloon and made a short flight at Edinburgh on August 25, and a second one on September 1, 1784. He was the editor of the second edition of *The Encyclopædia Britannica* and in recording his achievements he modestly refers to them as 'leaps' in the air.

A daring young Italian, Vincent Lunardi, secretary to the Neapolitan Ambassador, was the next to thrill the people of Britain, if not of the world. Lunardi received permission from Sir George Howard to rise from Chelsea grounds on August 12, 1784, but an amusing incident postponed his ascent for several weeks. A Frenchman named de Moret — who was a rival of Lunardi — announced that he would make an ascent from Chelsea on August 11, thus forestalling the Italian.

A crowd of nearly sixty thousand persons gathered to witness de Moret's ascent. For

THE FIRST AERIAL TRAVELLER IN BRITAIN

some reason the balloon could not be filled with air. For more than three hours the balloon lay on the ground, flat and flabby. This was more than the patience of the mob could endure. They broke through the barriers and destroyed the balloon and doubtless would have done violence to de Moret had he not made a hasty retreat.

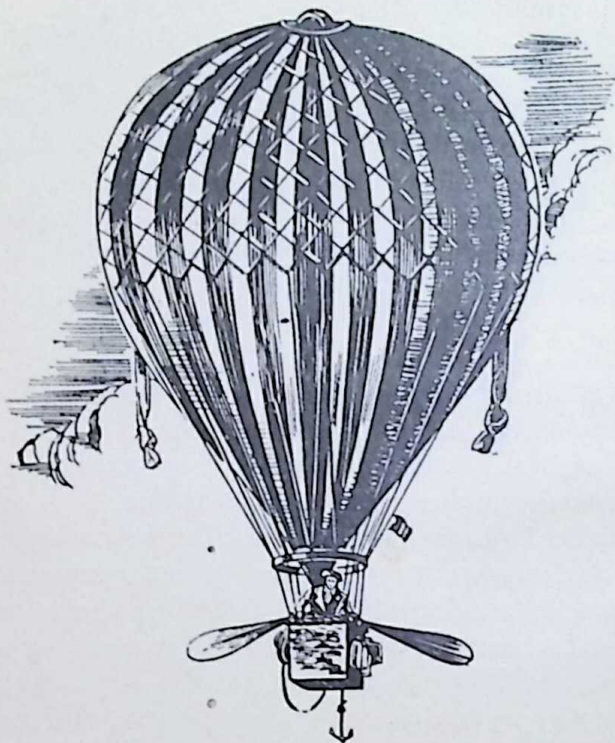
Sir George Howard and other authorities, much alarmed because of the mob's anger, hastily met and cancelled Lunardi's permission to ascend the following day. The Italian was bitterly disappointed, but his friends interceded for him and he was allowed to try his experiment from the Royal Military Grounds on September 15, 1784.

Lunardi's hydrogen balloon, which was thirty-three feet in diameter, was well varnished with oil and was gaily decorated with alternate stripes of red and blue. It had previously been exhibited in the Strand where more than twenty thousand people inspected this new wonder of the world. Another great crowd assembled, among which was His Royal Highness, The Duke of Clarence — afterwards King William IV. Arrangements had been made for Lunardi to take an Englishman, Mr. George Biggin, along with him, but it took so long to fill the balloon with gas that the mob — suspecting another fiasco — became threaten-

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ing, and Biggin consented to remain behind so that the time before the ascent might be shortened.

As Lunardi climbed into the gallery of the balloon he took with him a dog, a cat and a



LUNARDI TOOK WITH HIM A PAIR OF OARS IN WHICH HE
PLACED GREAT RELIANCE

pigeon. He also carried with him a pair of oars in which he placed great reliance. He

THE FIRST AERIAL TRAVELLER IN BRITAIN

thought that they would be useful in guiding the balloon during its flight. Just as he was about to start, a servant dashed up with the news that something else had gone wrong and the start must be further delayed. Lunardi knew that the crowd was becoming exasperated. Furthermore he believed that the new mishap was a trifling one, so, without further ado, he gave the word for the signal gun to be fired, and at five minutes past two, September 15, 1784, the first ærial ascent from British soil began.

The flight was a complete success: it is doubtful whether Lunardi himself had anticipated so complete a triumph. Several interesting and amusing incidents occurred during the voyage. The pigeon escaped and flew home. Then Lunardi dropped an oar and a young lady, mistaking it for the æronaut, swooned at the sight, and the shock so affected her that she died a few days later.

At another place a young man was being tried for his life and would doubtless have been condemned had not the judge and jury seen the balloon poised in the air. So impressed were they with what they considered a miraculous occurrence that they hastily pronounced a verdict of 'Not guilty', and so the youth was acquitted — thanks to Lunardi's exploit.

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He was thoroughly at his ease when in the air, for, in a record of his voyage, he tells of having eaten a hearty meal and also written several letters. When the balloon seemed likely to make too hasty a descent he threw out much silverware and whatever else he thought would lighten his craft. After being in the air for an hour and a half, he noticed that the cat was suffering greatly from the cold ; so he made a descent in a cornfield at South Minns where he put out the cat and after lightening the balloon by leaving more ballast, he ascended again.

The balloon finally came to rest at Standon in Herefordshire but the descent was almost more difficult than any other event of the voyage. Several labourers were working in the field as the balloon landed and Lunardi begged them to seize the loose ropes and hold them until he got out and securely tied the balloon. Perhaps it will be better to allow Lunardi to describe this amusing incident in his own words. He writes :

‘ As I arrived near the field some labourers were at work in it. I requested their assistance ; they exclaimed that they would have nothing to do with one who came in the Devil’s house, or on the Devil’s horse — I could not distinguish which of the phrases they used — and no entreaties of mine could prevail on

THE FIRST AERIAL TRAVELLER IN BRITAIN

them to approach me. I at last owed my deliverance to the spirit and generosity of a female. A young woman who was likewise in the field, took hold of a cord which I had thrown out, and calling to the men, they yielded assistance to her request which they had refused to mine.'

Lunardi at once became the hero of the hour. It was little more than one year since the Montgolfier brothers had done what seemed a marvellous thing — remained in the air for a very short time. Now the Italian had demonstrated that it was possible to remain in the air for several hours and ride in comparative comfort.

Lunardi made several more daring ascents. Just before Christmas, 1785, he rose from Edinburgh much against the advice of friends who warned him that the strong west wind might carry him out to sea where he would be helpless. Dare-devil that he was, he disregarded their advice and in less than half an hour he was being rapidly carried out towards the North Sea. He made a hurried descent but too late to reach solid earth and he was soon well out to sea while his balloon was being soaked by the spray of the sea.

The water had reached his waist and he must have abandoned hope when he saw a tiny speck approaching. This turned out to

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be a small boat sent from a fishing smack. They rescued Lunardi, but when he pleaded with them to save his precious balloon, they refused to run further risks in the heavy sea, so he had to console himself with a supper of fish.

Lunardi's achievement marked a real advance in flying and it is not surprising to know that a large stone was erected at Standon, where he landed, which bears the following testimony to his achievement :

'Let posterity know, and knowing be astonished, that on the 15th day of September, 1784, Vincent Lunardi, of Lucca in Tuscany, the First Aerial Traveller in Britain, mounting from the Artillery Ground in London, and traversing the regions of the air for two hours and fifteen minutes, in this spot revisited the earth. On this rude monument for ages be recorded that wondrous enterprise successfully achieved by the powers of chemistry and the fortitude of man; that improvement in science which the Great Author of all knowledge, patronizing by His providence the invention of mankind, hath graciously permitted to their benefit and His own eternal glory.'

CHAPTER IV

The First Flier to Cross the English Channel

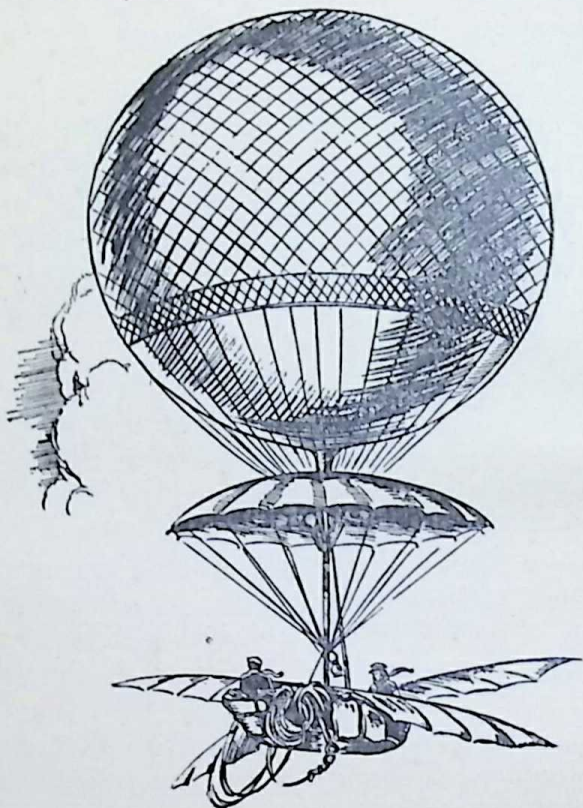
IN 1781—two years before the Montgolfiers sent up their balloon—a young man named Jean-Pressie Francois Blanchard, a native of Normandy, constructed a flying-machine, two hundred square feet in area and equipped with four large wings. Evidently he was unable to get the machine to rise as he never allowed anyone to see it.

The success of his fellow-countrymen, the Montgolfiers, greatly stimulated Blanchard's interest in flying although he abandoned his attempts to design a flying-machine and turned his attention to balloon-flying. Like Lunardi and other fliers of that day, he was anxious to discover some apparatus which would make it possible to steer the balloon which up to this time, had been completely at the mercy of the wind.

Blanchard made his first ascent from Paris on March 4, 1784. He used a hydrogen gas balloon, twenty-seven feet in diameter, with a boat suspended below. Previous to his flight the æronaut had received many applications from persons who wanted to accompany him, all of which he had refused. Just as Blanchard

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was about to ascend, a young army officer with drawn sword dashed forward and tried to force his way into the balloon. He did not



BLANCHARD USED A HYDROGEN GAS BALLOON WITH A
BOAT SUSPENDED BELOW

succeed in intimidating the flier and he was led away, angry and disappointed. It was commonly reported that this young officer was

THE FIRST FLIER TO CROSS THE CHANNEL

Napoleon Bonaparte. It is not certain that the officer was Napoleon although some historians record the story as a fact.

Blanchard went to England where his courage and inventiveness attracted much attention. He made his first flight from English soil on October 16, 1784, and shortly afterwards he established a world record for balloon flying by travelling over seventy miles in one ascent. On his fifth voyage in England Blanchard took with him an American doctor named Jeffries. Doctor Jeffries was an enthusiastic supporter of fliers, as generous as he was adventurous. He paid Blanchard a hundred pounds for the privilege of that first flight—a considerable sum of money in those days.

Blanchard announced that he would try to fly across the Channel to France. It is not easy now to grasp what it meant in those days to attempt such a voyage. Although Lunardi, Blanchard, and many others had, by the use of oars and other devices, tried to steer balloons, they had all failed, so that all that fliers could do was to wait for a favourable wind and take advantage of it. Should the wind change, the balloon might be sent far in a contrary direction to that which the flier intended, probably far out to sea. So when Blanchard said he would fly to France he fully understood the

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risk he was taking.

Doctor Jeffries offered to pay all the expenses of the trip — over six hundred pounds — if he were permitted to accompany Blanchard. The æronaut agreed, although he was doubtful if the balloon could carry two persons so great a distance. So eager was the doctor for the success of the experiment that he agreed that, if the balloon seemed too heavily weighted, he would leave the car and permit Blanchard to proceed unencumbered. One wonders whether Jeffries really meant that he would get out half way across the Channel.

Blanchard used the same balloon with which he had made his first successful flight from Paris in March. He added two large wings which were to be worked by passengers. Also to this balloon he added a large umbrella between the gas bag and the boat, so that if anything happened to the balloon, the umbrella would check the descent just as parachutes do to-day.

The fliers went to Dover for the take-off. Such interest had been aroused that a vast number of people watched every detail of the preparations made for the flight. At one o'clock on January 7, 1785, the voyage began. Thousands of well-wishers lined the cliffs of Dover as the balloon slowly ascended. Many flights had been made over land but none had ever deliberately committed themselves to a

THE FIRST FLIER TO CROSS THE CHANNEL

balloon voyage over the sea. The fliers took with them three sacks of sand ballast weighing ten pounds each, cork jackets, large parcels of pamphlets, a number of inflated bladders and two small anchors.

For a while all went well. A clear day had been chosen and a steady North-West wind carried the balloon slowly but surely in the direction of the French coast. Doctor Jeffries was thrilled as he watched the cliffs of Dover slowly fade in the distance. There seemed very little likelihood of having to fulfil his promise to 'get out of the car', if anything went wrong.

The balloon rose to a height of nearly two thousand feet and then, to the alarm of the two men, it began to descend rapidly. At this time the fliers were not more than one-third of the way across the Channel so that their position was exceedingly precarious.

Hastily they began to lighten the balloon by throwing some ballast overboard. The descent was checked; then slowly the balloon began to rise and go forward. Soon they were fully half way across the Channel. Before long, however, the huge bag started to descend again.

Frantically they threw overboard everything that could possibly be spared and the descent was checked whenever anything of weight was

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discarded. Overboard went apples, biscuits, oars, and whatever attachments could possibly be discarded. The anchors and cords were among the last things to be thrown out, but they had to go ; still the balloon floated towards the threatening sea which seemed to welcome the two men to its pitiless embrace. Blanchard threw his overcoat overboard and then his trousers. The men donned the cork jackets and prepared for the worst.

Meanwhile the prevailing North-West wind stiffened and the balloon was driven rapidly towards the French coast which was not more than four miles away when the fliers parted with their clothing. Down went the huge bag until the car almost seemed to touch the sea while the desperate men made ready to leap and trust to their cork jackets to keep them afloat until rescue came.

Then a strange and unexpected thing happened. A swift upward current sent the balloon high into the air, out of danger, and the French coast was reached at three o'clock—just two hours after leaving Dover. The men stripped off their cork jackets and eagerly scanned the landscape wondering where the balloon would land.

They moved rapidly towards a forest of tall trees. After many fruitless attempts they at last managed to lay hold of a great tree and

THE FIRST FLIER TO CROSS THE CHANNEL

gradually they forced the balloon to an open space. The escape valve was then released and the fliers were safely landed in the Forest of Guines, near Calais, where a crowd of excited people gave a great welcome to the first men to cross the English Channel by air.

Perhaps it was natural that the French people should bestow their chief honours on Blanchard. He received the freedom of Calais and became the hero of the hour. He was summoned to Versailles by the King of France, who gave him five hundred pounds and a pension for life.

Doctor Jeffries had been given the freedom of Dover, and while he does not appear to have shared equally in the honours, he lived to write an interesting and trustworthy account of this first ærial trip over sea. To-day a monument marks the spot in the Forest of Guines where the two daring adventurers landed.

CHAPTER V

The First Flight in a Heavier-than-air Machine

ONE day in 1878, Bishop M. Wright, of the United Brethren Church, brought a toy helicopter into his home in Dayton, Ohio.

The present was for his boys, Wilbur, aged eleven, and Orville, aged seven. The toy was operated by a spring and when the Bishop released it, the toy dashed skywards and struck the ceiling whence it fluttered until the spring had run down.

No present they had ever received so excited the boys as that helicopter. It was a simple toy made of cork, paper, and bamboo and had two propellers which whirled in opposite directions. The boys shouted with glee as they watched its flights, first in the house then out of doors; soon they carefully timed it and marked down its record flights. Later they took it to pieces, examined it and made helicopters of their own. Soon they knew all about that simple toy; the size of every part of it and just how long it would stay in the air under different conditions.

After the boys left school they started a printing-press and published a small weekly newspaper. At that time bicycles had recently

FLIGHT IN A HEAVIER-THAN-AIR MACHINE

been so much improved that bicycle-riding became a craze. Wilbur, and Orville opened a shop in Dayton and were soon doing a brisk business building and repairing bicycles.

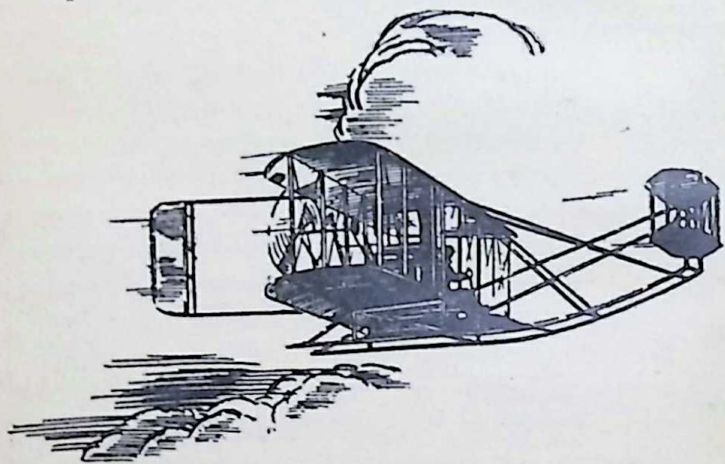
One day, in 1896, Wilbur read in a newspaper an account of how a German, named Otto Lilienthal, had been killed while trying to fly a glider of his own invention. This sad happening was the means of re-awakening in the two brothers their interest in flying which the toy helicopter had started several years previously. Over and over again they asked themselves the question why it was that Lilienthal had failed. They read every book and magazine article they could find that dealt with the subject of flying.

In their spare time the brothers concealed themselves behind trees and at close range observed the birds as they flew gracefully from one tree to another. Nothing escaped their attention; they watched crows, big hawks, tiny swallows and every kind of bird that came near. 'If only a human being could float along on currents of air like that,' sighed Orville one day as he watched the graceful flight of a bird. Soon they knew a great deal about the different ways that birds flew and what they learned was very valuable information.

Meanwhile, in different parts of the world

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adventurers were experimenting with gliders and other flying devices. A daring Englishman Percy S. Pitcher, who had succeeded in making a much improved glider, was killed on September 30, 1899, while a brilliant Frenchman, named Octave Chanute, living in Chicago, after spending several years studying flying machines, became discouraged and declared that it would be many years before man learned how to fly. Another man, who had spent over twenty thousand pounds in attempts to construct a flying machine, gave up in despair.



EACH YEAR THE WRIGHT BROTHERS WENT TO KITTY
HAWK TO TRY OUT THEIR MACHINES

The Wright brothers decided to build a glider which could be balanced in the air so as

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to take advantage of the veering currents of wind. They wrote to the Weather Bureau asking advice as to the best location for making flights. They were directed to Kitty Hawk, a lonely bare stretch of sandy plains, but well suited to their purpose.

In October of 1900 the Wrights took the glider they had made to Kitty Hawk. It was a large and — what would be considered to-day — a clumsy-looking machine, the huge wings covered with muslin and fastened one above the other with braces and steel wires. It was quite a novel idea in that the operator by lying prone in the centre could move the rudder by cords attached and so take advantage of the air currents.

It had taken the brothers four years' hard study to think out plans for their glider. Even then it had so many wires and so much wood-work that it must have looked like a Chinese puzzle. The boys decided to try out their machine on a certain day. The previous night they retired asking themselves a score of times if their machine would carry a passenger in the air.

The next morning a gale was blowing thirty miles an hour. This was a much stiffer wind than the brothers had hoped for, but they were so set upon making an attempt to fly that they refused to wait any longer. One of the

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brothers took his place in the glider, lying on his stomach with his neck thrust forward and firmly holding in his hands the wires which controlled the rudder.

The glider was released. For a second it seemed to shiver in the air as if hesitating what to do, then it slowly ascended. It flew, but not as far as the inventors had hoped. It came gently to earth but the Wrights knew that, although some of their calculations were not quite right, their idea of balancing in the air was a good one and they knew they could improve their machine. Each day following, they tried out their machine, improving the wire-controls until, when the time came for them to return to Dayton, they were well satisfied with their experiments.

They returned to Kitty Hawk in the summer of 1901. All through the winter they had discussed their efforts of the previous year and their hopes were high for this second year. Their new machine had 308 square feet of wing area as compared with the 165 feet of the glider used in 1900. But the new glider was disappointing. Each day some new defect was discovered. So many things went wrong that summer that Wilbur became desperate and said: 'Man will never fly in a thousand years.' Later when he recovered his spirits he said: 'What I meant to say was that man

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will not fly in fifty years.' When the brothers packed up and returned to Dayton they were both feeling somewhat gloomy.

All the following winter and spring the brothers worked at their invention more earnestly than ever, if that were possible. They still had their bicycle repair shop but in every spare moment they worked on plans for another and better glider. The autumn of 1902 found them at Kitty Hawk for a third time. They had made many changes in their machine construction, especially in the matter of rudder-control.

The 1902 experiments were more successful than the inventors had even dared to hope. This year there was as much to encourage as there had been to discourage them during the previous autumn. In all, the Wrights made a thousand flights in 1902 and the glider flew as steadily in a breeze of 36 miles an hour as when the wind was blowing 14 miles. It flew a distance of 622 feet, easily breaking all previous records. So much encouraged were the Wrights after the autumn of 1902 that a few months after their return to Dayton they applied for and secured from Washington patents on their inventions, although up to this time very few people knew anything about these marvellous young men with their perseverance and spirit of adventure.

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The brothers felt that the time had come to place a petrol engine in their plane. So far flying machines had simply been balloons and gliders ; now the Wrights decided to make the daring attempt to try a power-driven heavier-than-air machine. Therefore, when on the 23rd of September 1903, Wilbur and Orville left Dayton for Kitty Hawk it was with greater anticipation than ever. Early in November the machine seemed ready to fly, but the Wrights had suffered so many disappointments that they scarcely dared to hope that they had discovered the secret of making a machine carry a man through the air by its own power.

On December 14, 1903, the plane was ready for the great test. The brothers had made their own petrol motor of twenty-five horse power, weighing about two hundred and fifty pounds. A coin was tossed to decide which one should make the first attempt. Wilbur won. On the take-off a wire slipped and the machine swept down a hillside for about one hundred feet, then settled on the ground somewhat damaged. Repairs were necessary and flying was over for that day.

On the morning of December 17, the machine was ready for another attempt. At half-past ten Wilbur said to his brother, 'Your turn, Orville.' The young brother settled in his place. The wind was blowing

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twenty-seven miles an hour. He released the wire holding the plane back and slowly the machine rose and faced the strong wind. Orville had all he could do to handle the plane. It seesawed and darted here and there in erratic fashion. But it did stay in the air for fully twelve seconds and landed one hundred and twenty feet from the starting-point. Not a great distance, but that was the first time that a plane had lifted itself from the ground, sailed forward, then landed at a point so far away.

Less than an hour afterwards Wilbur tried a flight and made nearly two hundred feet. Orville made another attempt and stayed in the air fifteen seconds, covering a little over two hundred feet; then the day's flying was brought to a successful climax when, about noon, Wilbur remained in the air for fifty-nine seconds and covered eight hundred and fifty-two feet. The machine landed heavily on the ground and was badly broken. The plane was injured so that no more flights could be made that year, but the brothers were happy beyond words. They had flown and the first thing they did was to send a telegram to their father telling him of their wonderful success. December 17, 1903, must ever be listed as a great day — perhaps the greatest day — in the history of flying.

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In 1904, instead of journeying to Kitty Hawk the Wrights made their headquarters at Kill Devil Hill, eight miles east of Dayton. Interest in the doings of the young inventors had increased, but still very few believed it possible that the men could fly with a weight of several hundred pounds. The Wrights were modest almost to the point of shyness, and self-advertisement was the last thing in the world of which either of them could be accused. But as the brothers perfected their machine, their flights lengthened until by October 1905, they were making flights of over half an hour's duration. Then the world woke up to what had happened. Human flight was possible and one of the greatest inventions of all time had been made. For many years it had been a dream; hoped for by some; laughed at by others; now it was an actual fact.

Soon afterwards, the inventors discovered how to turn in the air. Previously they had simply made straight flights. Every attempt to turn in any direction had resulted in the plane's capsizing. Before the end of another year Orville discovered how to turn in the air and soon afterwards Wilbur made a complete circle. Then in September 1905, the machine performed what at that time was a truly remarkable feat—it covered a distance of

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eleven miles — and this astounding achievement was flashed around the world. But even this record was soon broken by the Wrights who were ever striving for bigger things.

In 1908 Wilbur Wright went to France where his flights completely astounded the French, who had been sceptical about the news of his achievements. On December 18 of that year, he flew for over two hours and ascended to a height of over three hundred feet. Great advance has been made since the Wright brothers first flew in their motor-propelled machine, but when the history of man's achievements in the air comes to be written, a foremost place will be given to those modest, persevering brothers, Wilbur and Orville Wright.

CHAPTER VI

The First Aviator to Cross the English Channel

VERY soon after the Wright brothers had achieved such success with their aeroplanes, several aviators resolved to fly over the English Channel, although as yet no attempt had been made to cross open water. The Channel at its narrowest point is twenty-one miles wide, but in those early days of flying only a daring adventurer cared to risk his life in flying over an open sea.

The *Daily Mail*, an English newspaper, offered a prize of one thousand pounds to the first aviator to cross the Channel. A young Frenchman named Hubert Latham announced that he would make the attempt as soon as weather conditions permitted. Latham had previously won a prize of one thousand pounds for making an endurance flight, when he remained in the air for one hour and nine minutes. The previous year, while at Blackpool, a famous English resort, he had astounded large crowds by his skilful handling of his machine during a heavy gale.

But Latham had a competitor in another young Frenchman, Louis Blériot. He had begun to study flying in 1900, the same year

FIRST AVIATOR TO CROSS THE CHANNEL

that the Wright brothers began making experiments at Kitty Hawk. In that year, Blériot built his first machine, which was soon destroyed. Later he built four biplanes ; not one of them was a success. Early in 1907, he built a monoplane and on April 5th he managed to make a flight of six seconds' duration. A few days later it crashed but he escaped unhurt. His sixth machine was much larger, but soon that also was a total wreck. He had more success with his next plane ; he made longer flights and was able to guide it fairly well, but in December it also was wrecked. From the time he had first experimented with gliders Blériot had experienced a series of such hair-breadth escapes as would have utterly discouraged a less daring flier. Instead of giving up, however, each disaster whetted his appetite for further adventures.

Altogether Blériot spent over twenty thousand pounds on these experiments ; he experienced fifty accidents and it seems little short of a miracle that he did not lose his life. In addition to amazing courage, Blériot had considerable mechanical ability and every plane he made was an improvement on its predecessor. In July 1908, he built his eighth machine and flew for eight and a half minutes — an accomplishment which greatly encouraged him.

In July 1909, both Hubert Latham and Louis

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Blériot moved their planes to the north-east coast of France ; each determined to be the first to cross the Channel. Early on the morning of July 19, guns announced that Latham, who had his machine at Sangatte, near Calais, was about to start. He was confident that he would reach England, and messages were flashed to Dover where he expected to land.

Swiftly his Antoinette machine raced down on wheels to the edge of the cliffs and then gracefully soared into the air over nine hundred feet — a much greater height than had ever been attained previously. The torpedo boat *Harpon* left at the same time in order to help the aviator should such assistance be required. Many thousands watched him as he maintained a speed of forty-five miles an hour and soon vanished into a cloud.

Some hours later the *Harpon* steamed back to Calais with Latham on board. When almost half-way across the Channel his engine failed and he had been compelled to make as careful a descent to the water as possible. Fortunately the wings of the plane enabled it to keep afloat and when the *Harpon* reached Latham he was sitting on his machine calmly awaiting the arrival of his rescuers, as if being wrecked at sea were a daily occurrence.

Louis Blériot was at Les Barraques, a few

FIRST AVIATOR TO CROSS THE CHANNEL

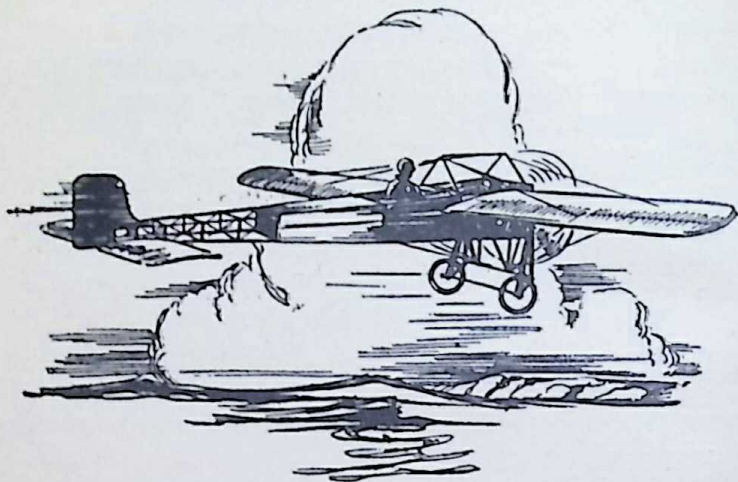
miles from Sangatte, awaiting a favourable opportunity to attempt a crossing. Latham secured a new machine and soon both men were ready to start. Blériot's feet were severely burned in a petrol explosion but he refused to wait any longer. On the morning of July 25, which promised to be an ideal day for flying, he hobbled on crutches and took his seat in the monoplane. He made a short trial trip in order to be sure that everything was all right; then at 4-35 A.M. he waved a farewell to the small group of onlookers and he was off.

In these words, written to *The London Times*, Blériot later described his experience ;

'At 4-35 I gave my mechanics the order to let go. The machine rose splendidly. My course to the sea lay across the sand dunes, and then I had to surmount the telegraph wires which run along the coast. It was because I wished to be certain of clearing these that I started on the plain. I struck across the dunes and went over the telegraph wires at a height of about one hundred and eighty feet. I could see the destroyer *Escopette* a few miles out at sea, and as she was to steam towards Dover, I took my bearings from her. The destroyer was steaming at full speed, but I very quickly passed her. My machine was then travelling at about forty-five miles an hour, the

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revolutions of the propellers being about twelve hundred to fourteen hundred a minute. While travelling over the Channel my monoplane was at a height of about two hundred and fifty feet. At times she dipped a little, but I always got her to rise again.



BLERIOT FLYING TOWARDS THE CLIFFS OF DOVER

'For about ten minutes after I passed the destroyer I was able by looking back to steer my course by the direction in which she was steaming. Then I lost sight of the destroyer, and the English coast was not in view, so I decided that the best thing to do was to set my steering gear for the point at which I had last seen the *Escopette* heading. The flight continued for about ten minutes with nothing

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in sight but sea and sky. It was the most anxious part of the flight, as I had no certainty that my direction was correct, but I kept my motor working at full speed and hoped that I would reach Dover all right. I had no fear for the machine, which was travelling beautifully. At last I sighted an outline of the land, but I was then going in the direction of Deal, and could see the long beach very plainly. In setting my steering I had overlooked for the moment the effect of the wind, which was blowing very strong from the south-west, and had therefore deflected me eastward. I could have landed at Deal, but I had started to come to Dover, and made up my mind to land there. I headed my monoplane westward, therefore, and followed the line of the coast to Dover about a mile or a little more out at sea. I could see a fleet of battle ships in Dover Harbour, and I flew over these to a point where I could see my friend M. Fontaine, with a large French tricolour, denoting the point where I was to descend. I flew in over the cliffs all right, but the descent was one of the most difficult I have ever made. When I got into the valley between the Castle and the opposite hill I found an eddying wind. I circled round twice to ease the descent, but I alighted more heavily than I had anticipated, and the monoplane was damaged.'

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It took Blériot just thirty-seven minutes to fly across the Channel. He landed in a meadow behind Dover Castle. Within twenty-four hours he was hailed as a hero both in England and France. His plane was taken to London where one hundred and twenty thousand people saw it within a few days. It is pleasing to remember that one of the first to send hearty congratulations to Blériot was his rival, Hubert Latham. To-day a large monoplane, carved in stone, marks the exact spot where Blériot landed.

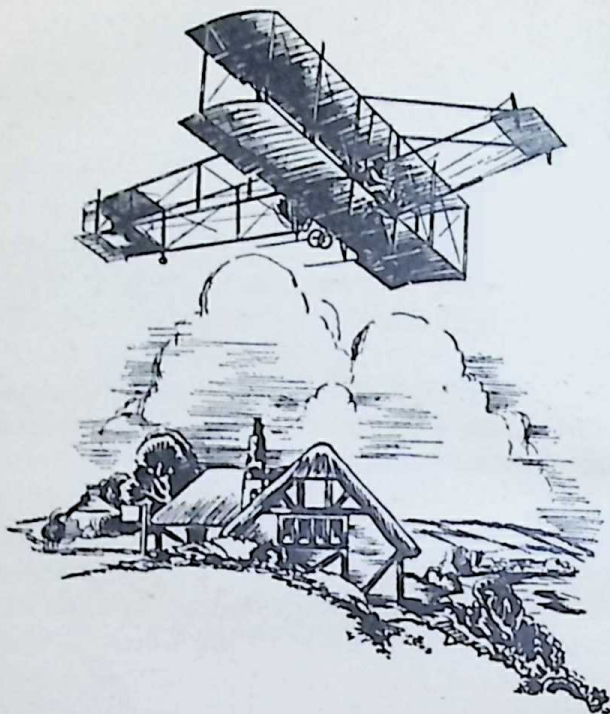
CHAPTER VII

An Exciting Race with a Thrilling Finish

IN 1906 the London *Daily Mail* offered a prize of ten thousand pounds to the first person who would fly from London to Manchester — a distance of 183 miles — in twenty-four hours. In his excellent book, *Conquering the Air*, Mr. Archibald Williams says: 'The idea of taking an aeroplane nearly two hundred miles across railways, trees, buildings, telegraph wires, hills and multitudinous other objects appeared somewhat fantastic to the mind of the ordinary citizen. The public attitude towards aviation was still the sceptical one usually entertained towards every revolutionary innovation.' Four years elapsed before any serious attempt was made to gain this prize. Meanwhile, Louis Blériot had established a school to train fliers, and one of the most successful pupils was a young Englishman, named Grahame-White. In 1910 he announced his intention to try for the *Daily Mail* prize.

But he was not to have the coveted honour without a contest, for a French aviator, Louis Paulhan, also decided to attempt the flight. In July, 1909, Paulhan had broken European

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LOUIS PAULHAN AT THE START OF THE RACE

records by soaring to an altitude of four hundred and fifty feet, and later in the year had given an exhibition of flying in the United States. In January, 1910, at Los Angeles, Paulhan had reached an altitude of four thousand, one hundred and sixty-five feet and had attained a speed of forty-five miles an hour. He arrived in England just about the

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time that Grahame-White made public his intention to try for the newspaper's award.

Paulhan arrived in England on April 27, 1910, and so great was his hurry to win the *Daily Mail* prize that he hopped off from London without even making a test flight. It was 5-30 in the afternoon of a bitterly cold day when the Frenchman began his flight. Four days previously, Grahame-White had actually made a start from London but an unexpected freshening of wind, which developed into a gale, forced him to abandon his attempt at Lichfield after flying one hundred and seventeen miles.

Great excitement had been aroused not only in England but in many European countries and even in the United States, for the telegraph wires were busy with the details of this exciting contest. More than ten thousand pounds was at stake; keen rivalry for national honour in matters of flying had existed between France and England for some time.

In London a great crowd of admirers watched Grahame-White as he made preparations for the Manchester flight. Early in the afternoon he got out his plane and climbed into the seat ready to start, but the wind was too strong and erratic. He decided to postpone his flight until early in the morning, feeling sure that Paulhan would not start in

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such a gale. As the wind increased he retired for a much needed rest, but at six o'clock the astonishing news was brought to him that Paulhan had stolen a march on him and had hopped off half an hour previously.

Grahame-White could wait no longer. Half-asleep he climbed into his plane and at half-past six o'clock — he left London in the hope of overtaking his rival. Then began one of the most thrilling races in the history of flying.

When Paulhan left London a special train with friends started for Manchester. Among Paulhan's friends was Farman, the manufacturer of the plane he was using. Railway ties at junctions had been whitewashed by previous arrangement, so that from the air he might more easily locate the lines he was to follow.

In those days no aviator had the control over his machine which fliers have to-day. Often a plane would refuse to leave the ground and no one could tell what was wrong. Even after accidents, the aviators were often quite unable to tell what had gone wrong. Paulhan's coolness and steady nerve excited the admiration of the English spectators who saw him start and their hearty cheers and goodwill greatly encouraged the Frenchman.

Taking the advice of Farman, Paulhan mounted high in the air in order to avoid the

AN EXCITING RACE WITH A THRILLING FINISH

air currents which might worry him. From the start he had to battle against gusts of wind which gave him no rest. In order to take advantage of air currents he rose and dipped, often being over three hundred feet higher than at other times. His dislike of gloves when flying caused him to leave without them and the bitter cold made his fingers numb.

For a time he lost sight of the train he was to follow, but after a time it came into view and he was delighted to see the big white signal cloth floating from its rear coach and to hear its whistle. He answered the whistle, although he said that the huge white signal cloth looked like a tiny pocket handkerchief. Then followed a pelting rainstorm, which added to his discomfort, but he kept right on.

With the coming of darkness he came much nearer to the earth in order to be more certain of his direction. Suddenly his motor stopped ; every drop of petrol was exhausted. An immediate descent was necessary. Could he do it in the darkness and in a locality with which he was quite unacquainted ? Below him was a narrow field with many telegraph wires near. He turned swiftly, avoided the mesh of wires and landed gracefully in the field. He was at Lichfield. There he must get petrol and wait until dawn.

Just about the time that Paulhan landed at

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Lichfield Grahame-White left London. Night was approaching when he mounted and no previous flier had ever attempted an ascent under such conditions. In the haste of leaving he forgot his map of the journey but in the darkness he could see the lights of the railway stations and with that slight guidance he flew swiftly ahead.

It was a daring adventure for he had no previous experience of flying in the dark. Had anything happened to his machine he would have plunged to almost certain death. For a time he flew with no lights whatever to guide him ; then occasionally he saw the light from a cottage window or the headlights of his car against a wall for a signal. He was greatly relieved when he recognised this signal ; then the automobile sped swiftly in one direction in order to guide him. This helped him until he saw a freight train on the tracks and he followed it until he was forced to land in a field near Roade, sixty miles from London. He had covered sixty miles, most of it in utter darkness.

Paulhan was fifty-seven miles ahead of him, although neither man at the time knew much about his rival's progress. But there they were, both having descended in the night, Paulhan at Lichfield, and Grahame-White at Roade. Then it was that Grahame-White

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resolved to make a desperate bid for victory.

With only a few lights from farm-houses and automobiles to guide him the daring flier ascended at half-past two in the morning hoping to steal a march on Paulhan. He reached a field near Lichfield at 4-14 A. M. although he did not know that just five minutes earlier the Frenchman had left.

For three quarters of an hour Grahame-White struggled to keep his machine from being destroyed by heavy gusts of wind. No one appeared in sight, but at last curiosity brought a crowd to view the plane, something which they had not seen before. In reality the race was then over for at 5-32 A. M. Paulhan had reached Manchester, having covered the distance of one hundred and eighty-three miles well within the twenty-four hours and in a flying-time of two hundred and thirty-two minutes.

Although it was early in the morning, a vast throng of people greeted Paulhan in Manchester and, while most of them would have preferred that Grahame-White had won, with characteristic British sportsmanship they wildly cheered the French flier as his plane floated gracefully towards the ground and made a perfect landing.

One of the first to send congratulations was Grahame-White and the manner in which he

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accepted defeat after the thrilling neck and neck race won for him world-wide admiration. 'Paulhan,' said White, 'is the finest aviator the world has yet known. Compared with him I am a mere novice.' But Grahame-White was no mere novice, and when, shortly afterwards, he won a prize of ten thousand pounds for a sensational flight in the United States, true sportsmen the world over were quick to say that it was no more than deserved.

CHAPTER VIII

A Daring Attempt to Fly Over the Atlantic

IN 1913 the London *Daily Mail* offered a prize of ten thousand pounds to the crew of the first aeroplane to cross the Atlantic.

Fliers might hop off from any place in the British Isles to any point in the United States, Canada, or Newfoundland, or if they chose, they might travel in the opposite direction. It must be a non-stop flight and be completed within seventy-two hours. The shortest route is that between the west coast of Ireland and Newfoundland, a distance of eighteen hundred miles.

For six years after the offer was made no one attempted to win the prize. A non-stop flight of nearly two thousand miles meant that powerful engines, well under control, must be used and this, together with the fact that dense fogs so often prevail around the Newfoundland coast, made even adventurous fliers hesitate, although the question as to who should be the first to cross the Atlantic was a subject of constant discussion.

Early in 1919 two experienced fliers announced their decision to make the attempt. These were, Mr. Harry Hawker, a young Australian, and Lieutenant Commander Mac-

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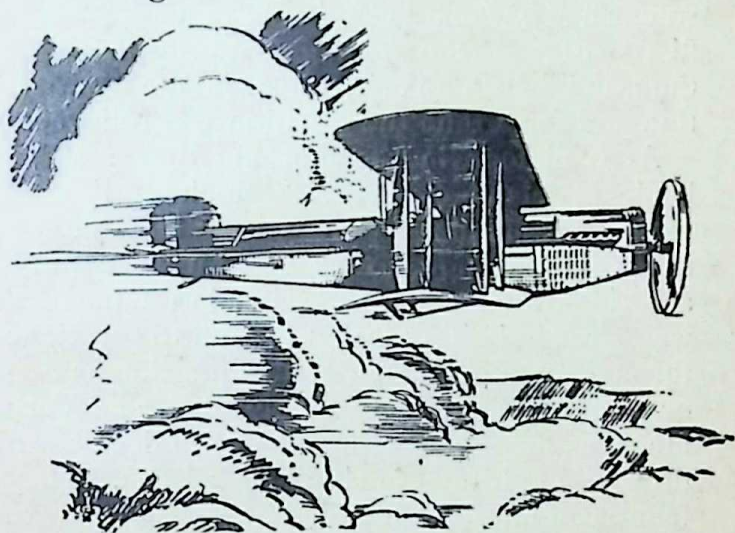
Kenzie Grieve, an Englishman. The two men arrived with their plane at Placentia Bay, Newfoundland, on March 23, 1919. The weeks which followed put a severe strain upon the two fliers. Most of the time the weather made flying impossible and nearly every day there was what Mr. Hawker termed 'some titivation,' to be done to the plane. A dozen times it seemed as if the time had come to make the attempt but always some little accident, or sudden change in the weather frustrated their plans.

On April 10, two rivals of Hawker and Grieve named Raynham and Morgan, came with a Martinsyde machine and lost no time in putting it together — so a contest was on and the two teams watched each other's movements as a cat watches a mouse. The fliers were all staying at the same hotel and were on the best of terms. They came to the agreement that they would give one another two hour's notice when they had decided to start.

The morning of May 18 was clear and promising for a flight. Hawker and Grieve got their machine ready, with tanks filled, and at 5-42 P. M. (Greenwich time) said good-bye to friends and pushed off. Steadily they climbed in face of a stiff North-East wind and started out across the Atlantic, hoping to sight Iceland within twenty-four hours. After the

A DARING ATTEMPT TO FLY OVER THE ATLANTIC

under-carriage had been dropped — as previously arranged — the plane rose to an altitude of ten thousand feet and was soon roaring along at a speed of one hundred and five miles an hour. Looking towards the sea the fliers noticed several magnificent ice-bergs glistening in the sun, while ahead of them was a dense fog.



MORE THAN ONCE HAWKER
AND GRIEVE HAD A VERY NARROW ESCAPE

By 10 P. M. the blue in the sky had turned to purple and weather conditions became decidedly worse. Nothing could be seen distinctly and the clouds seemed like a thick wall. The fliers poked the nose of their

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machine into the wall and forged ahead. The clouds became thicker and neither sky nor sea could be seen. To climb over the clouds would have meant using a great deal of gasoline, something the aviators felt they could not spare. Observations showed that the plane had drifted one hundred and fifty miles southward and it was evident that some bits of solder had become loose in the radiator. The fliers caused the plane to descend three thousand feet in an effort to shake the obstruction and for a time the situation was relieved.

At 6 o'clock in the morning they faced a bank of black clouds that looked like a massive mountain. They were at least fifteen thousand feet high, so it seemed useless to try and ride over them as the water in the radiator was already boiling furiously, and to go right through clouds was out of the question as one or two attempts had plainly showed. Very much against their wishes the fliers decided to drop to an altitude of six thousand feet. They found conditions worse than ever, so they were compelled to drop lower until they were just one thousand feet above the water. Here things were much brighter and observations showed that they were in the right course, and as daylight was now approaching the men were much relieved.

The constant boiling of the water was a

A DARING ATTEMPT TO FLY OVER THE ATLANTIC

matter of great concern to the men for their supply was rapidly being diminished. More than once they wished it were possible to take just a few bucketsful from the ocean beneath them. As it was, in their downward glide they had a narrow escape, for the engine went dead. Hawker instantly shouted to Grieve who got busy on the petrol pump and pumped hard enough to push the carburettor needle valves off their seats and flood the jets with petrol.

Every moment it seemed as if the Atlantic were rising up to meet them in a terrifying fashion. The two men, who just a short time before had been sailing along at an altitude of twelve thousand feet, were soon not more than ten feet above the angry looking waves. They knew that they had flown about nine hundred and fifty miles since leaving, but this meant that they were just about halfway across the Atlantic and it was quite possible that there was no vessel within many miles.

Both men knew that their drop into the ocean was only a matter of time. Could they strike the water in such a way that the crash would not destroy the plane? Further, was there any likelihood that, when they did alight on water there would be any ship near to rescue them?

Hawker, who was behind Grieve, thought that his companion was likely to be thrown

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heavily against the petrol tank ; so he slapped him on the back and shouted that he was going to 'land'. Just then the plane shot forward and they were able to climb, and for the time being, at least, the danger was over. There was no vessel near, and had they struck the water then they would have perished.

They knew now that nothing could be gained by simply going ahead. They had enough petrol, but their supply of water was almost exhausted and to fly for an hour or so was about all that could be expected of the plane. They decided to fly around in search of a ship, otherwise their case was hopeless. They now steered a zigzag course, dodging the thick clouds and heavy squalls of rain and keeping low to the water in search of a ship. If they did not sight one they would be compelled to make the best landing they could and get into their little emergency boat which at best could not last for more than an hour or so.

For two hours they flew around on what began to seem like a hopeless quest. Every moment their meagre supply of water in the radiator grew less. The wind became more gusty and the going bumpy. The fog became so dense that they knew they might easily pass within a short distance of a ship without seeing her or being seen.

A DARING ATTEMPT TO FLY OVER THE ATLANTIC

Suddenly a great hull loomed out of the fog; it was a ship. Hawker shouted with joy. The ship was the Danish steamer 'Mary' and she was sailing towards Denmark. The aviators flew over her and fired three distress signals and then kept close until the crew began to appear on deck. Then they pushed ahead about a couple of miles in the ship's course and, in spite of the high sea that was running, they managed to make a safe landing.

Quickly they detached their little boat and got into it, for the machine was sinking fast. The life-saving suits worked well and just then the 'Mary' came up and launched a life-boat. Yet what looked like an easy task proved to be a very difficult one, for it was an hour and a half before the boat could pick the two men up, but after a while this was accomplished. A line had been run from the boat to the ship and they were hauled in. This was at 8-30 P.M. on Monday evening (Greenwich time); just fourteen and a half hours after the men had left Newfoundland. They had flown one thousand and fifty miles.

The 'Mary' was not equipped with wireless and so the aviators were unable to let their friends know that they had been rescued. It is not surprising then that soon all hope for Hawker and Grieve was abandoned. Millions,

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on both sides of the Atlantic were interested in the flight, and nothing but sympathy was expressed over what seemed the certain fate of the fliers. King George sent a message of sympathy to Mrs. Hawker and the London *Daily Mail* hastened to say that the ten thousand pounds would be paid to the relatives of the aviators. When day after day passed without any word of the fliers, their fate appeared to be certain.

Then on May 25 at 10-55 A. M. the 'Mary' was able to communicate by flags with the coast guards at the Butt of Lewis in the north of Scotland. The men asked if those rescued were Hawker and Grieve. Back came the answer from the rapidly disappearing steamer: 'Yes.' Then the news was flashed by telegraph to London and in the space of one hour millions knew that the men were safe.

To say that the world was thrilled by the news of this rescue is putting it mildly. Crowds of people and hundreds of telegrams came to Mrs. Hawker who had never given up hope. Meanwhile the fliers had been transferred to a naval destroyer and then to the battleship 'Revenge.' This ship brought the men to London on May 26, and there followed such scenes of enthusiasm as are witnessed seldom in a lifetime.

On the following day the two men were

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received at Buckingham Palace and decorated by the king with the Royal Air Force Cross. Two days later the *Daily Mail* presented the men with one thousand pounds as a consolation prize. Their attempt to cross the Atlantic had not succeeded — really it had failed — but it was a magnificent failure and one which the world will not soon forget.

CHAPTER IX

The First Non stop Flight Across the Atlantic

FOR a time after the attempt of Hawker and Grieve, any idea of a non-stop flight across the Atlantic was abandoned chiefly because the air-machines did not have sufficient fuel capacity for so long a voyage. A great step forward was taken when the NC (Navy-Curtiss) flying ship of the United States Navy flew from New York to Trepassey Bay, Newfoundland, then to the Azores and after a pause there, on to Lisbon in Portugal. This was the first crossing of the Atlantic by air and was a really great achievement.

The prize of ten thousand pounds offered by the London *Daily Mail* for a non-stop flight across the Atlantic was still unclaimed and ever since the close of the Great War daring aviators had longed, probably not so much for the money as for the honour of being the first to cross the Atlantic without a pause. Who would be the first to fly over? What nationality would then be honoured? Which make of machine would be used?

While the excitement over the daring attempt of Hawker and Grieve was still at

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fever heat, two aviators, Captain John Alcock and Lieutenant Arthur Brown, who had been fellow-prisoners in a German prison-camp, made arrangements to take over the aerodrome on Newfoundland, which had been used by the pair whose venture, while not a complete success, had won admiration everywhere. Alcock was an Englishman. Brown was born in England but had lived for several years in the United States and was by this time an American citizen. The plane used by Alcock and Brown was a Vickers-Vimy bombing aeroplane and its gasoline tanks were enlarged to carry eight hundred and sixty-five gallons of gas, sufficient for a flight of 2,440 miles—that is, about 560 miles more than was necessary for the Atlantic crossing. There were other competitors in the field. At Harbour Grace, not far away, was a magnificent Handley-Page machine just waiting for a favourable opportunity to hop off.

At 4-28 P. M. (Greenwich time) on June 14, 1919, Alcock and Brown, taking two black cats for mascots, rose slowly in their plane, which they named the 'Vimy', from the field at Quidi Vidi. The plane had a hard time getting started and for a while it looked as though the attempt would be disastrous. It had gone a considerable distance before a height of one hundred feet was attained. The wind was

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gusty and erratic and it required all the skill these experienced fliers possessed to prevent the machine from being turned around and hurled to the ground.

Gradually the aviators succeeded in getting the plane up to two hundred feet and soon they were flying over an open bay where there was no longer any danger of crashing into an obstruction. For a time the plane was lost to sight and the spectators, who had witnessed the uncertain start, began to fear the worst. Soon the plane flew gracefully over the city of St. John's and then headed for the broad Atlantic, which Columbus had crossed in his perilous voyage, just four hundred and twenty-seven years previously. They were now well on their way to cover the nearly nineteen hundred miles which separated them from Ireland. Hawker and Grieve had failed chiefly because some pieces of solder in the water-tank had got loose and caused the water to boil so furiously that the supply gave out. Alcock and Brown knew that anything might happen to their engines and that out there alone over the ocean almost certain death must follow failure of any kind. Previous tests had shown that the plane could make a maximum speed of one hundred and twenty miles an hour. The aviators thought that ninety miles would be the best speed and if no mishap befell them

FIRST NON-STOP FLIGHT ACROSS THE ATLANTIC

they should reach Ireland in twenty hours. But that was a big *if*, for all previous attempts had failed.

Brown, who was acting as pilot, decided to steer straight for Galway Bay which is one of the best landing places in Ireland. As the machine swept out to sea she gradually arose until an altitude of over five thousand feet was reached. So far the weather had been favourable and, chiefly owing to a stiff breeze behind them, the machine was making one hundred miles an hour, which was well in excess of what they had anticipated.

When two hundred and fifty miles on their way, the fliers decided to send a message back to St. John's to acquaint friends there of their progress. To their dismay they discovered that, owing to a mishap when they were leaving, their wireless was entirely out of commission, and there was no possibility of communication with the outside world. They could not send out any message to those who were interested in their flight, nor could they communicate with any ships no matter how near they might be. Further, they could not receive any weather report, relayed by ships from Washington.

Troubles never come singly. Soon after this disheartening discovery, they ran into dense fog. It entirely blotted out the view

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of either sky or sea. Alcock sent the plane upward until an altitude of twelve thousand feet was reached. But at that height the wind became so gusty that it blew the machine around like a kite and hastily the fliers decided to make a descent.

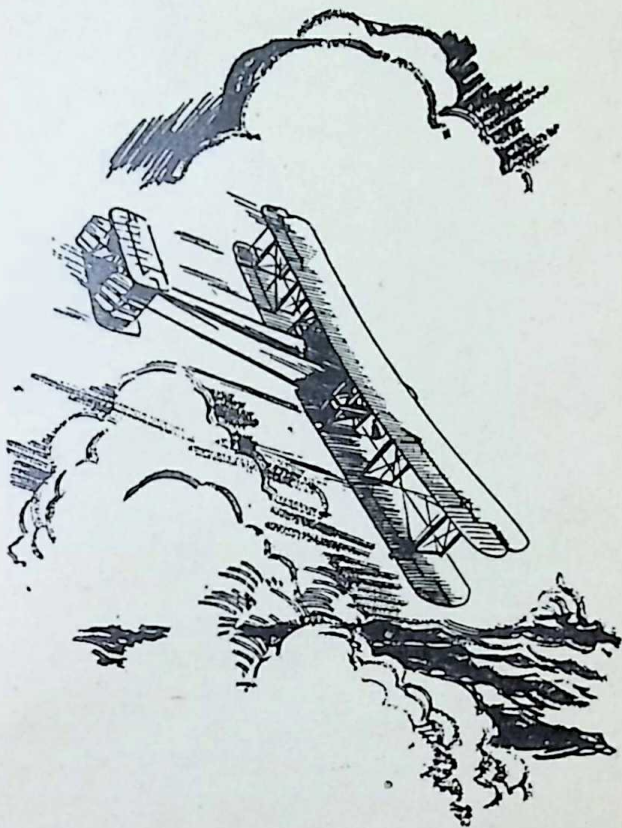
Alcock turned the nose of the plane downwards and to both men it seemed as if they were plunging into dense smoke, so thick had the fog become; not a thing could they see, and for a time their flight was exceedingly perilous. They had not the faintest idea how high above the sea they were, and Alcock remarked, with an attempt at a joke, that they might make a hole in the water at any time.

Just when matters were at their worst, Alcock saw something white flashing before him and distinctly saw the lapping water. Swiftly he got his plane to straighten out; actually the plane had been within twenty-five feet of the ocean. It was a close shave! Nothing could have been closer and both men were devoutly thankful to have escaped so untimely a fate.

Once more the nose of the machine was turned upward and they began to mount until an altitude of eleven thousand, five hundred feet had been reached. They sailed out of fog into clear air and had a perfectly clear view of the sky. From then on they frequent-

FIRST NON-STOP FLIGHT ACROSS THE ATLANTIC

ly ran into patches of fog but from these clouds they quickly emerged and the steady, regular roar of their engine sounded like



THE PLANE WITHIN TWENTY-FIVE FEET OF THE WATER music in the ears of the two men, for then they were assured that all was well. For a time

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the plane was actually making one hundred and twenty-five miles an hour, but this speed was partly due to the wind behind them, for Alcock did not at any time force the machine to do her utmost.

Suddenly rain splashed in the face of Brown. This meant more clouds and confusion, with the likelihood that they would get lost again. The rain increased and then turned into sleet. Soon the plane was entirely covered with a coating of ice, and the aviators were compelled to huddle together in the cockpit of their machine, while the storm was terrifying in its savage intensity. The moon could no longer be seen and the possibility of plunging into the sea once more faced them.

That heavy sleet storm lasted for over four hours and the two men, although partly sheltered, were encased in ice almost as men in olden times were in armour. But they kept up their vigil with magnificent courage, and when morning came, they were able to take observations, when they found that they had drifted considerably north of their course. The speed indicator showed that they had been making almost one hundred and twenty-eight miles an hour.

If they thought their troubles were over they were mistaken, for before long they ran into another wall of fog. Alcock turned the

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plane downwards in an effort to get under it. They descended to within three hundred feet of the water before they were beneath the fog. Then for the first time since they left Newfoundland they sighted a ship in the distance, but before long it was lost to their view.

The worst danger when flying in such thick fog is that all sense of position may become confused or lost altogether, and this is just what happened to Alcock and Brown. On several occasions these men did not know whether they were flying upward, downward, or on the level; a truly terrifying situation. More than once the two men were seized with a feeling of utter helplessness, without the faintest idea of what was likely to develop.

At one time Alcock thought they were heading downwards; instantly he turned the nose of the plane upward. It so happened that they had been rising before this and the new move caused the plane to turn completely over so that they actually flew upside down; they managed to hold their seats, and even their two pet cats held on by clawing into the seat covers.

Once more the 'Vimy' emerged from the fog and when they were able to take observations they were as much surprised as delighted to find that they were almost exactly on the right course. Soon afterwards, to their great

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relief, they saw land in the distance. Within an hour the machine circled the aerial station at Clifden in Ireland and gracefully landed in what seemed to be a lovely field, but which turned out to be a bog.

They were surrounded by a host of excited people who showered the two men with congratulations, the first of thousands they were to receive within the next few days. The landing was made at 8-40 A.M. (Greenwich time) so that the flight had taken exactly sixteen hours and twelve minutes.

The aviators wired the news to London and within a few hours they received a message from King George. The ten thousand pounds prize had been won and the first non-stop flight across the Atlantic had been made. This Vickers-Vimy plane has now found a place of honour in a museum in London.

CHAPTER X

A Daring Airman Flies Over Africa

TOWARDS the end of 1911, a surveying party under the direction of the British Air Ministry, began to build a chain of aerodromes that stretched from Cairo in Northern Africa to Cape Town in the south. The terrific heat, the innumerable animals and insects, together with the suspicion and hostility of natives, were the chief obstacles in the path of the builders. In addition to this, however, there was the difficulty of getting from one place to another through dense jungles and treacherous swamps. Only men of dauntless courage and perseverance could have succeeded. After almost a year's work, the chain of twenty-three landing-stations covering a distance of five thousand, two hundred and six miles was completed. The *London Times* at once organized a flight which was to be not merely for novelty or excitement, but 'a serious attempt to show whether Africa could be traversed easily and safely from end to end by proper aircraft in ordinary conditions, and a pioneer effort in exploration from the air.'

On February 6, 1920, a crew of five men, of whom Dr. P. Chalmers-Mitchell of the Zoologi-

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cal Society, was scientific leader, left Cairo in an attempt to fly over the more than five thousand miles to Cape Town.

The aviators followed the course of the Nile. They looked down upon vast stretches of desert never before seen by Europeans. They reached the ærodrôme at Assouan, where they did some repairs to the machine which the terrific heat made necessary. After that they flew to Khartoum, where a whole day was spent in cleaning the body of the machine. Great bush-fires had obscured the land-marks so that the difficulties were greatly increased. A forced landing had to be made near Mongalla in a swamp infested by crocodiles and millions of mosquitoes, not to mention numerous other living things. The airmen were able to continue, but the heat of the tropics was more than the engines could stand, and the attempt had to be abandoned at Taliora, on February 27, after a distance of two thousand, seven hundred miles had been covered. While the experiment had not wholly succeeded, it could not be considered a failure; to have flown such a distance was in itself an achievement, besides which much valuable information for other fliers had been obtained.

Another attempt to fly over Africa began on February 10, when two South Africa airmen, Lieutenant Colonel Pierre van Ryneveld and

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Lieutenant Brand, left Cairo in a Vickers-Vimy machine, the 'Silver Queen'. They were continually bothered with the same engine trouble which harassed the Chalmers-Mitchell party, and after several mishaps the machine was wrecked when compelled to make a landing at Korosko. The aviators escaped injury, and while the plane was ruined the engines were uninjured. These were installed in a new plane and the journey was continued on February 22. This plane covered three thousand, eight hundred and eighty miles in thirteen days before it crashed at Bulowayo. A new plane, however, left Cape Town and picking up Colonel van Ryneveld and his companion, returned with them to Cape Town, thus enabling them to complete their journey on March 20.

A few years later a young English aviator with a remarkable record was commissioned by the Imperial Airways to survey the aerial routes from Cairo to Cape Town. This was Alan J. Cobham who had already flown from London to Rangoon and back, a distance of seventeen thousand miles. The task of flying from Cairo to Cape Town, however, was more difficult, as previous attempts had shown. The aerodromes erected in 1919 had become so overgrown with bushes as to be almost hidden in the jungle, and it took several months of strenuous work before the flight

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could be attempted.

Accompanied by a mechanic and a photographer — whose equipment included a moving picture machine — Alan Cobham left the aerodromes at London on November 16,



SIR ALAN COBHAM

1925. He flew to Cairo and then began the long journey of over five thousand, two hundred miles to Cape Town. Cobham knew that in all that vast country there were very few places where, if compelled to make a

A DARING AIRMAN FLIES OVER AFRICA

landing, he could do so without grave danger to himself and to his companions. Dense jungles stretched for hundreds of miles. In many places savages who had never seen the face of a white man, would hardly be likely to show mercy to such unexpected guests. Seldom in all the history of flying had airmen undertaken so dangerous an adventure.

He was more successful than his predecessors for, although bothered by the terrific heat, he had little engine trouble. In spite of the dangers involved, Mr. Cobham and his companions made several descents into villages in the jungle, where the savages surrounded them with spears, hardly knowing what to make of these white men who had dropped down out of the clouds. Mr. Cobham's friendliness, combined with the fact that he was well supplied with such gifts as appealed to the people, made it possible for him, not only to escape with his life, but to take moving-pictures of amazing interest.

The savages, gorgeously decked in all their war-paint and brandishing spears, were proud to be photographed, while the native women, when asked to wash the plane, were more than delighted. Gaudy beads, mirrors, and necklaces, were all that they asked in exchange for their strenuous efforts to make the plane look spick and span. The airmen landed

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close to the spot where the brave Livingstone spent many years of his life, and they could not but contrast the friendly reception they received with the suspicion and animosity which the missionary had to overcome.

Cobham and his companions visited the famous Victoria Falls, and secured many close-up pictures of the marvellous cataracts. Although even the natives had not ventured too close, the airmen turned the nose of their machine towards the falls and actually flew within fifty feet of the water. When in that position the engine began to give trouble and Cobham quickly realized the cause. The dense volume of spray worked its way into the carburettor. It was an anxious moment for the aviators. Below them yawned a chasm hundreds of feet deep, while to either side was a jungle where, if a landing had to be made, no assistance could be found. Fortunately, they were able to get clear of danger and the engine soon began to run smoothly again.

After many thrilling experiences, Cobham and his companions reached Cape Town on February 17, 1926. They were the first fliers to make the entire journey from Cairo to Cape Town using the same plane and engine. Since leaving England they had actually travelled over eight thousand miles in the air.

After spending nine days in Cape Town,

A DARING AIRMAN FLIES OVER AFRICA

Cobham set out to make a return trip to England, something which had not been in his original programme. He set off in his plane on the morning of February 26, and reached Kimberley on the evening of the same day; a journey which, not so many years ago, would have taken many weeks, or even months.

The return journey, while it was made against time and allowed few descents to be made in order to take photographs, had many exciting adventures. At one place the aviators saw twenty lions trotting through the jungle in single file. Needless to say, the fliers decided not to make a landing there. Fierce rainstorms at times made progress difficult, and the heat tired them almost beyond endurance. Even at an altitude of seven thousand feet, the temperature was well over ninety in the shade. When the machine was allowed to get near the ground the thermometer rose to one hundred and sixty in the sun. It is no wonder that Cobham said that the air was like a blast from a hot furnace. Then Cobham had the almost unbelievable experience of running into a sandstorm at an altitude of twelve thousand feet. He could only see a few yards ahead except when he looked downwards, and his only guide was the Nile, and when he lost sight of the river — as he did on more than one occasion — he

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was uneasy until he sighted it again.

Cobham arrived safely at Cairo on March 7, just nine and a half days after the aviator left Cape Town. After a rest of two days he flew to Athens in Greece, then on to Taranto in Italy, and over the Appenines to Pisa. He next flew over the Alps at a height of twelve thousand feet and reached Lyons in France from which city, after filling his tanks, he headed toward London.

Cobham and his companions reached London on March 13, just fifteen days after leaving Cape Town. A fleet of aeroplanes left England and met him in the air and when he arrived at London at 4-20 P. M. he was greeted by vast throngs who justly regarded his flight as one of the most daring and successful in the history of flying. An illustration of his speed is seen in the fact that as he rose from the earth at Cape Town on his return trip, the fast mail steamer, 'Windsor Castle,' left the harbour for London. Although Cobham made twenty-six stops on the way and the steamer made none, the fliers reached London fully two days ahead of the ship.

CHAPTER XI

The First Flight From England to Australia

IN 1919 the Australian Commonwealth Government offered a prize of ten thousand pounds for the first successful flight by Australians from England to Australia before the end of the year. The aeroplane was to be constructed from parts made entirely in the British Empire and the time used in making the flight must not exceed seven hundred and twenty hours.

The difficulties to be overcome in such a trip were great. The actual distance was eleven thousand and sixty miles, and while there were aerodromes favourably situated at many places in Europe, and as far east as Calcutta, after that landing stages were few and far between. Many pauses would have to be made at places where landing would be exceedingly difficult and might easily result in a crash.

A young Australian aviator, who had done a good deal of flying during the Great War, Captain Ross Smith, together with his brother Lieutenant Keith Smith and two Australian mechanics, Sergeant J. M. Bennett and Sergeant W. H. Shiers, entered for the prize and at 8 A. M. on November 12, 1919, the fliers

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rose from the ground at Houndslow Heath aerodrome on their eleven thousand mile adventure.



SIR ROSS SMITH

The machine selected was a Vickers-Vimy twin-engined biplane, with a capacity for five hundred gallons of petrol and forty gallons of oil. The biplane was capable of tearing through the air at one hundred miles an hour, although Ross Smith decided to avoid strain-

FIRST FLIGHT FROM ENGLAND TO AUSTRALIA

ing the machine lest engine trouble should develop when they were hundreds of miles from any safe landing place. To add to the already great interest in the flight Ross Smith had a competitor. A French aviator, named Poulet, although not eligible for the ten thousand pounds, was determined, nevertheless, to be the first man to fly from Europe to Australia. He left well ahead of Smith and had a start of several thousand miles.

Seven hundred and twenty hours meant thirty days, and the fliers left England seven weeks before the end of 1919. There was a heavy mist as the plane arose on November 12, but the great machine climbed steadily on until the waves of the English Channel could be seen through openings in the fog and the aviators were soon looking down upon France. The Vickers machine, flying at an altitude of nine thousand feet, sailed gracefully on towards Lyons which was the first landing-stage.

From Lyons the plane was headed for the famous Riviera and soon the Australians had for a floor the marvellous snow-capped Alps. The machine was working smoothly and in spite of occasional gales the aviators reached Pisa, in Italy, as darkness fell on the second day. They lost a day owing to wet weather which made flying impossible. The next day was no better and as it seemed likely

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to last for a long time, the aviators risked a flight and after considerable difficulty managed to get out of the heavy mud and were soon sailing gracefully on their way to Rome, the next landing place.

From Rome the plane flew over beautiful Naples, and Vesuvius, then across the great Appenines to the next ærodrome at Taranto, where the fliers received a warm welcome from friends of the Royal Air Force. Here the plane was carefully overhauled, for the next hop was to be five hundred and twenty miles, most of which was over the Mediterranean Sea.

Early in the morning of the 17th, the Vimy machine arose in face of a driving rain, and, handicapped by mist, made its way over historic Greece. More than once the airman, who had to fly low, failed to see islands with huge obtruding rocks until they almost crashed into them. After halting at the ærodrome in Suda, the fliers faced one of the most dangerous stages of their journey. Ross Smith had to manœuvre his way among a range of mountains, some peaks of which were over eight thousand feet in height. Dense clouds hung like a heavy curtain around many of them and more than once the plane was headed straight for a rocky giant that, had it not been seen in time, would have spelled the

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end of the Vimy machine.

After Crete was safely passed the nose of the machine was turned towards North Africa. Soon the plane passed over a desert waste as barren of visible life as had been the vast expanse of the Mediterranean Sea. Nothing but great stretches of sand could be seen, and the aviators decided that a forced descent there would be almost as hopeless as if one landed in the ocean. The mighty pyramids were seen next, and before the close of day the important Heliopolis aerodrome, near Cairo, was sighted. That day, November 19th, the plane had flown six hundred and fifty miles without even the suggestion of a mishap to the engine.

This really marked the end of the first stage in the England-to-Australia flight. Two thousand, five hundred miles had been covered—that is almost one quarter of the entire distance, and only seven days had passed. The next stage of the journey was from Cairo to Calcutta in India, and meant a distance of over four thousand miles. At Cairo, Ross Smith was informed that the French flier, Poulet, was well ahead of him.

In view of the fact that he was well in advance of his schedule, friends wanted the Australian to remain there for a well-earned rest, but the news concerning the French flier

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induced Ross Smith to press on without delay. He was off again early next morning and soon looked down upon the blue waters of the ancient Nile. Over historic Sinai, Jerusalem, and the Dead Sea, the plane flew rapidly, covering distances which would have taken camels of olden times many weary months. After crossing the Dead Sea, which to the airmen seemed little more than a pond, the City of Damascus was reached and a safe landing made.

The next morning they were off again, although a heavy rain was falling and mist was everywhere. After a while the strong wind was a help to the fliers, for it sent them at a great speed over Baghdad and southern Persia towards India. At Karachi, Captain Smith learned that his rival, in spite of several thousand miles' start, was only one day ahead of him. Soon Delhi was reached and one-half of the long journey was safely passed. This was on November 23, and during the three preceding days the plane had covered two thousand, three hundred miles, and so, although Poulet was at Allahabad, Captain Smith decided to rest and overhaul the engine.

The next day the capital of Bengal was reached and the excitement among the people was so great that it almost made a hop-off

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impossible. But as the French flier was already in Burma, Captain Smith had no time to waste, so hastened on. When the æroplane was taking off, however, an apparently simple incident almost caused a great disaster. A couple of huge hawks flew straight into the propellers. What happened to the poor hawks is not difficult to guess, but the birds had struck the wooden propellers with such force that it was feared the plane might be injured. A broken or injured propeller would have meant a terrific crash without a doubt, and the aviators were greatly relieved when they heard the steady, regular, hum of their machine.

Excitement reigned supreme with the Australian fliers, for in the distance they saw the faint outline of an æroplane. It was Poulet's machine, and they succeeded in overtaking it. It was a close race for a while, but when the Frenchman recognized he was unable to maintain the pace, he took the first opportunity — when a landing was made — of congratulating Captain Smith and his companions.

The last stage of the journey was packed with interest. After Bangkok had been reached the hop-off to Singapore started a flight of nearly one thousand miles. For the remainder of the journey landing-places were not good,

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and had it not been for the great skill of Ross Smith, the plane would have crashed or been hopelessly embedded in some treacherous swamp. At Surabaya the machine did land on mud, the outer crust of which gave way, and the Vimy sank down so much that no amount of digging could get it out. It looked as if the attempt to reach Australia must end in failure, for with only twelve hundred miles to go the plane was fast in a bog. Captain Smith had a roadway of bamboo mats made, and after one futile attempt the machine left the mud and climbed towards the sky.

On the morning of December 10th the aviators climbed into their machine at Atamboca and faced the last lap — a hop of four hundred and fifty miles over open sea to Australia.

Land was sighted at 2 P. M. and one hour later the plane rested on Australian soil. The eleven thousand mile journey had been successfully made in six hundred and sixty-eight hours, so the aviators had fifty-two hours to spare. The news was quickly carried all over the world and the feat was justly regarded as one of the most daring and successful up to that time. In addition to the money awarded, Captain Ross Smith and his brother were knighted by King George for their achievement. Since that time others have flown from

THE FIRST FLIGHT FROM ENGLAND TO AUSTRALIA

Europe to Australia in less time, but nothing can diminish the honour due to these airmen who first made that spectacular eleven thousand mile flight.

CHAPTER XII

The First Airman to Fly Over the North Pole

FROM the time that Peary discovered the North Pole in 1909, others too made gallant attempts to reach the same goal.

The almost unbelievable hardships had prevented others realizing this ambition and in 1926—seventeen years later—it still remained true that the Peary achievement had not been repeated.

By the spring of 1926, so much interest had been aroused in the possibility of reaching the North Pole by aircraft that nine expeditions were being equipped for proposed flights. One of these expeditions was led by Amundsen, the gallant Norwegian, who had discovered the South Pole. In his giant dirigible, *The Norge*, he and five companions reached Spitzbergen, which is the most northerly settlement in the world, just seven hundred miles from the North Pole. They hoped to make their attempt as soon as weather conditions became favourable.

Another expedition was that of two young aviators, Richard Byrd, of the United States Navy, and Floyd Bennett. The previous summer Byrd had flown thousands of miles over

THE FIRST AIRMAN TO FLY OVER THE NORTH POLE

Arctic ice and he had returned with the set determination to be the first man to fly over the Pole. Mr. Edsel Ford of New York, by his generosity, had made the Byrd expedition possible, and the airman named his tri-motored machine the *Josephine Ford*, after Mr. Ford's daughter.



LIEUTENANT COLONEL RICHARD BYRD

From the time he was a school-boy, Richard Byrd had been interested in Arctic exploration. At the age of twelve he solemnly resolved to be the discoverer of the North Pole. When he heard the news of Peary's achievement he

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said: 'If I can't be the first to see the Pole I'll be the second.' He did everything he could think of to make himself physically strong and able to withstand cold. When preparing for the Arctic voyage of 1926, he went all winter without underwear, gloves or overcoat. Biting winds which chilled other people, he laughed at. The Eskimo of the far north could stand no more cold.

His plane was carried on board the ship *Chantier* from New York to Spitzbergen, but when the aviators arrived on April 29, 1926, they found Amundsen there and preparations for his attempt practically completed. The race was on and not a moment was to be lost. Quickly and at considerable risk, the *Josephine Ford* was lowered over the ship's side to some rough planks laid on the ice. A sudden storm or a shifting of ice, indeed any one of a dozen accidents, and the plane would have been smashed to pieces.

The rivalry between the two expeditions was good-natured but it was keen nevertheless, and the knowledge that millions of people the world over were watching them made both crews anxious to be off. 'I am willing to try a flight to the Pole without delay,' said Byrd to his companion; 'our rivals may take it into their heads to leave at any time.' 'The sooner we leave, the better,' replied Floyd Bennett,

THE FIRST AIRMAN TO FLY OVER THE NORTH POLE

the pilot.

On May 8, Byrd decided to stake everything on a dash to the Pole. He worked hard with his men on the runway so that there would be no accident as the plane took off. He and Bennett had not slept for thirty-six hours. Half an hour after midnight that is, at 12 A.M. on the morning of May 9, the two fliers climbed into the *Josephine Ford*, opened the throttles, and with a graceful movement the huge plane rose over the enormous boulders of ice into the air.

Every minute meant that the aviators were lessening the distance between themselves and the Pole—it also meant that they were placing such a distance between them and other human beings that, in the event of a breakdown of their plane, rescue would be almost impossible. It was a strange sensation which took possession of the two men. Dozens of expeditions—all of which set out with high hopes—had failed and hundreds of adventurous men had perished in the Arctic wastes. Would they succeed where so many others had failed?

As they looked down upon the mountains of ice many such thoughts thrilled these men. They were getting into lands and gazing upon scenes never before viewed by mortal eye. They were actually opening up unexplored

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regions at the rate of ten thousand square miles an hour. They could see the course taken by Peary seventeen years previously. Byrd had a coin pinned to his shirt which had been pinned to Peary's shirt during his successful expedition.

The engines ran smoothly and the wind was favourable. They mounted steadily until they reached an altitude of two thousand feet. They passed over Cape Mitre and soon afterwards reached Danes Island where, in 1896, Andree left for the Pole in his balloon and was lost. The fliers worked harder than they had ever done before because they realized that if once they lost their bearings, their chances of getting back to Spitzbergen would be small.

The cold was intense. Byrd stood up to consult the compass and the cold air instantly caused his cheeks and nose to be frost-bitten and only vigorous rubbing prevented them from freezing. His hands grew numb in spite of sealskin gloves and he had to beat them against the cockpit; Floyd Bennett suffered in the same way. Later Byrd wrote: 'Luck was with us. There was not a bump in the air, no upward or downward currents that tilt the plane and throw the compass spinning. The sun was bright and we had a wonderful view of the formidable ice pack. It was covered everywhere with snow and criss-crossed with

THE FIRST AIRMAN TO FLY OVER THE NORTH POLE

pressure ridges like a crazy quilt. The constant movement of the polar ice pack causes ridges and opens leads of water, but we saw very few such leads that had not recently been frozen over, with the fresh snowless ice looking greenish against the white snow around them.'

Suddenly Byrd was alarmed to see what he thought was a bad oil leak in the motor. He relieved Bennett at the wheel and asked him to examine it. Bennett did so and wrote a note saying that the leak was serious and he feared the motor would not last long. He advised making a landing on skis and attempting to repair the damage. Byrd made calculations and found that they were only one hour's flying from the Pole and he decided to keep going as long as they could.

One hour later he made calculations and found that they were exactly at the Pole. Neither spoke but they shook hands. It was a great moment in their lives. The time was 9-04 A. M. (Greenwich time). They took a number of motion pictures and still pictures of the scene, and then started on the return journey to Spitzbergen.

The next question was what was to be done with the leaking oil-tank. Bennett still believed that a landing would be the best thing, but Byrd did not care to run such a risk and

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steered a course towards Spitzbergen.

A stiff wind favoured them and soon they were travelling at the rate of one hundred miles an hour. For three hours they flew swiftly over a region totally unexplored — unknown to man. To the two aviators came a sensation of intense loneliness; separated as they were by vast stretches from any human beings.

At six o'clock in the afternoon Roald Amundsen and his companions were having dinner in the dining-hall of the *Norge* — wondering what had happened to the *Josephine Ford* — when suddenly someone cried: 'Byrd is coming.' Away in the distance, almost too small to be seen by the naked eye, was a speck which gradually became larger. It was the *Josephine Ford*.

Amundsen, good sportsman that he was, embraced Byrd, kissed him and said: 'You have been to the Pole! It is magnificent! It is wonderful! You have beaten us but we are full of admiration for you, sir!' Byrd was deeply touched by this welcome; perhaps all the more because there never could be any more generous spirit nor one who had more genuine good-will in his heart than Richard Byrd.

CHAPTER XIII

The Man Who Visited the Earth's Two Poles

ON December 14, 1911, a Norwegian, Roald Amundsen, with four companions, discovered the South Pole. His courage, love of adventure and sportsmanship made him popular the world over. He remained at the Pole for three days making observations and leaving provisions for the English explorer, Captain Scott, who arrived soon afterwards. Amundsen returned to his sea base after an absence of ninety-nine days, during which time he had travelled one thousand eight hundred and sixty miles over Arctic ice.

Amundsen was not content to rest after this discovery; he was anxious to visit the North Pole. As a very young man, he had made up his mind to visit both Poles if courage, perseverance and a willingness to endure hardship could do it. He was fifteen years of age when he read the life of that great Arctic explorer, Sir John Franklin. That book did a great deal to increase his interest in Arctic adventure and exploration.

The Great War frustrated his plans for some years and when it ended in 1918, the art

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of flying had made such forward strides that he abandoned the dog-sledge, which all Arctic explorers had used so much, and pinned his faith to aeroplanes. His early experiences were not pleasant ones. One of his planes was smashed in 1922 just when his hopes had risen high. Another met the same fate in 1923. In the summer of 1925, in company with a young American, Lincoln Ellsworth, he made a determined, and almost successful, attempt to reach the North Pole. Making his headquarters at King's Bay, Spitzbergen, just seven hundred miles from the Pole, he used two sea-planes, the N 24 and N 25. Amundsen with two companions captained one and Ellsworth and two men the other.

The two sea-planes set out on May 21, 1925, but from the beginning they were harassed by fog and engine trouble. The planes flew hundreds of miles over totally unexplored regions—an area so still that the throb of the engines sounded more like the low rumble of thunder. After thrilling adventures—which more than once seemed destined to end in tragedy,—they were rescued by a whaler after they had reached one of the Spitzbergen islands. Later, Amundsen wrote a book entitled 'My Polar Flight', which gives a graphic account of this stirring adventure.

The measure of success that Amundsen had

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in the summer of 1925 was responsible for the interest of Mussolini, the Italian statesman, in Arctic exploration. A magnificent dirigible, *The Norge*, was fitted with every device that made for safety and comfort, had a library of three thousand books, and could accommodate seventeen passengers.

Amundsen and Ellsworth awaited the arrival of the dirigible at King's Bay, Spitzbergen, and when she arrived there early in May, 1926, after having flown from Italy, she proved to be even a better airship than Amundsen had expected and his delight knew no bounds.

Byrd and Bennett returned from their successful flight on May 9, and on the following day they entertained Amundsen and his companions to dinner on board the ship *Chantier* which had carried Byrd's plane to the north. Nothing but the best of good feeling prevailed and, as gifts were exchanged, the American aviators extended their heartiest good wishes to Amundsen for the success of the *Norge*.

At nine o'clock, on the morning of May 11th, the *Norge* left her moorings and under her own power was soon moving skywards. For an hour Byrd and Bennett flew alongside in the *Josephine Ford* and then returned as the great dirigible moved on towards the Pole. The *Norge* soon attained an altitude of nearly

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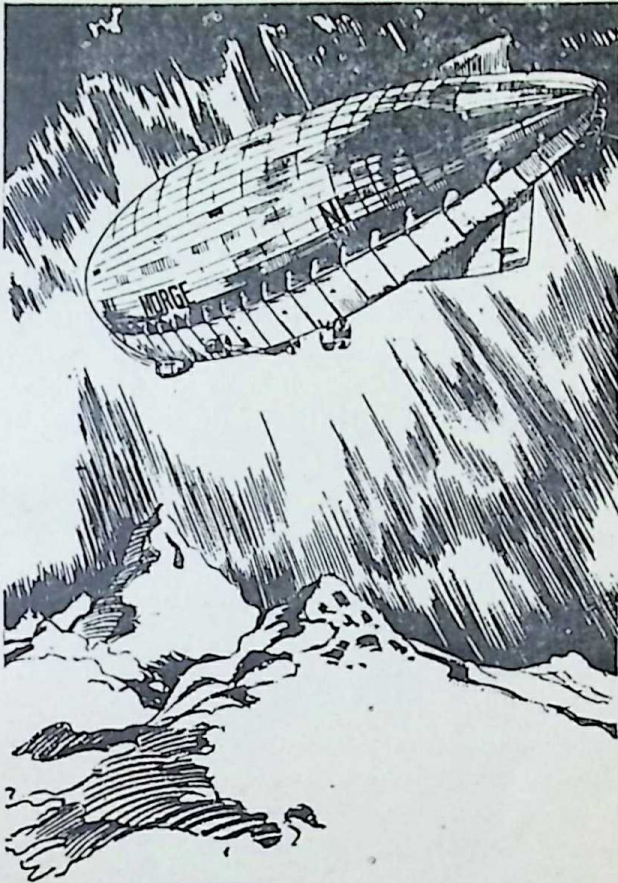
two thousand feet and moved along at a speed of sixty-four miles an hour. The temperature dropped rapidly and the cold became so intense that sleep was out of the question.

Men had often wondered if there was much land in the vicinity of the North Pole and conflicting theories were held. From the *Norge* no land whatever could be seen and Amundsen's previous opinion, that there was no land near the Pole, proved to be correct. In every direction, as far as the eye could see, there was just a great expanse of ice, and far up in the air the explorers could hear nothing but the steady throbbing of the engines.

On towards evening clouds gathered and variable winds somewhat retarded their progress, but the dirigible sailed on, rapidly approaching the Pole over which mankind, for hundreds of years, had wondered and spun their theories. Sometimes the *Norge* descended to within a few hundred feet of the ice but for the greater part of the time she sailed on at a high altitude. By midnight all was excitement on board for all knew that they were in the vicinity of the Pole.

Just two and a half hours past midnight, that is at 2-30 A. M. on Wednesday, May 12th, calculations showed that the North Pole had been reached. The *Norge* descended to within a short distance of the ice, then Amund-

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THE NORGE SAILING ABOVE ARCTIC WASTES

sen, Ellsworth and Nobile dropped the flags of their respective countries on to the ice. As each flag was attached to a heavy steel rod

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with a sharp point each national emblem was soon seen waving in the breeze, a strange sight in that great waste of ice and snow.

The *Norge* twice circled the Pole and remained in the vicinity for an hour and a half. Careful observations were made, many photographs taken and then the great ship flew up in order to proceed to the area beyond the Pole in the direction of Alaska.

About this time the intense cold caused ice to form around the antennae of the wireless and efforts to clear it off were useless. News that they had reached the Pole was sent out to the millions who were interested in the expedition but very soon afterwards the radio set broke down entirely and no word could reach the outside world. Yet they had the unique distinction of sending out the first radio message from the North Pole.

From that time all was silent as far as the *Norge* was concerned. The news that the airship had reached the Pole within forty-eight hours of Byrd and Bennett's flight was flashed around the world, but it was feared that something serious had happened and grave fears for their safety were felt everywhere. In the meantime the great airship sailed along over an entirely unknown part of the Arctic; an area which had been regarded as hopelessly inaccessible. No land could be seen

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anywhere, nothing but endless fields of ice which Amundsen considered must be in some places, many years thick. Every possible place where ice could form, it did so, and soon the airship was entirely coated with ice and moved through the air like some giant ghost.

To keep the course was now extremely difficult and only when the sun peered through the clouds was this possible, and that was not often. They had been away from their base at Spitzbergen nearly fifty hours before land was seen and then the coast near Port Barrow was seen. Soon afterwards the *Norge* was sailing over the Bering Sea and open water began to make its appearance as the ship moved on to the south. There was considerable excitement on board when an Eskimo hut was sighted but a storm made a safe landing impossible. The dirigible was severely tried by storms and was under a terrific strain because of the constant formation of ice; but she stood up magnificently.

Amundsen was by this time anxious to make a landing and was hoping to sight Nome. At last buildings were sighted; this proved to be the settlement of Teller, one hundred miles north of Nome. A heavy storm was raging and the ship was being sorely buffeted. Amundsen decided to make

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a landing. They circled the huts until the *Norge* was near the ground, then a member of the crew was dropped to the ice with a parachute. The entire Eskimo population, excited but eager to help, turned out and assisted in mooring the airship which had made a record of staying in the air for seventy-one hours and travelling three thousand four hundred miles.

Amundsen managed to send a message to Nome, it was passed on to Seattle, and within a few hours the world knew that one of the greatest Arctic expeditions of all time had been carried through without any loss of life. Beside this, the information brought to mankind by Amundsen's voyage, made it something more than an adventure—it was extremely valuable research work done in face of extraordinary difficulties.

Roald Amundsen was a happy man. He had made his boyhood dreams come true. He had visited both the North and South Poles. Two years later he lost his life in a gallant attempt to rescue Colonel Nobile who was missing. Amundsen will always be remembered as a brave and unselfish explorer, one whose courage was only equalled by his kindness.

CHAPTER XIV

The First Flier to Cross the Atlantic Alone

IN 1920, Mr. Raymond Orteig, a Parisian who had formerly resided in the United States, offered a prize of five thousand pounds to the first flier who would make a non-stop flight between the cities of New York and Paris, a distance of over three thousand miles.

The first serious attempt for the prize was made by a French aviator who became famous during the war, Rene Fouck. His Sikorsky æroplane was especially planned and built for this attempt and high hopes were held for his success. He started from Roosevelt Field, Long Island, on September 21, 1926, but the plane crashed and burned as it took off and although Fouck was uninjured, a mechanic and a radio operator were killed. Fouck, bitterly disappointed, returned to Paris and announced his intention of trying again the following year.

This tragic happening somewhat damped the enthusiasm of aviators. However, two fliers, fellow-countrymen of Fouck's, Charles Nungesser and Francois Coli, set out from Paris on May 8 in an attempt to make an east

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to west journey. They were never heard of again, and undoubtedly perished in the waters of the Atlantic.



COLONEL CHARLES LINDBERGH

Soon after this, a twenty-five year old youth named Charles Lindbergh made a flight from San Diego to New York in the fastest time that had been yet recorded for a coast to coast flight. He announced his intention of trying to fly from New York to Paris. In view of the recent disaster he received little

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encouragement, and the *New York Times* voiced the prevailing pessimism when it said : 'In government circles, Lindbergh's venture is termed suicide.' 'Slim', as Lindbergh was known to his friends, refused to be turned aside from his purpose and immediately began preparations for his adventure.

Charles Lindbergh, who was born in Detroit on February 4, 1902, saw his first aeroplane when he was ten years of age, and was fascinated by it. There and then he resolved that some day he would be an aviator. After passing out from a high school he decided to study mechanical engineering and became a student at Wisconsin University. While there he became more than ever interested in aeronautics, and when as a passenger he took his first flight on April 9, 1922, it gave him a great thrill. He enrolled as a student with the Nebraska Aircraft Corporation and at once began to receive instruction in flying. He was a willing and eager pupil and it was not long before he was doing 'solo' flying, as flying alone is termed.

His father had never been in an aeroplane and was opposed to Charles' flying, but one day the young flier persuaded his father to take a trip. Rather dubiously Mr. Lindbergh climbed into the cockpit of the machine and in a few minutes he was enjoying his first

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ride. From that day he never said a word against Charles' flying and never missed an opportunity of having a ride in the plane. Unlike her husband, Mrs. Lindbergh had been in sympathy with her son's ambition from the beginning. She went up in his machine the first chance she got and became almost as enthusiastic as he was.

Soon after this Lindbergh entered the training school for cadets in the Air Service of the United States Government. He underwent many very exacting tests and at the end of a year was granted a commission as second lieutenant in the Air Service Reserve Corps. Out of one hundred and four cadets who began the course only eighteen were successful.

It was in the fall of 1926 that Charles Lindbergh first thought of the New York to Paris trip. He knew that it would not be easy but the more he thought about it the more convinced he became that he could make it. When he first mentioned the matter some scoffed and others opposed his venture, but fortunately there were some public-spirited men in St. Louis, where he lived, to support the project and give him encouragement. He began to lay his plans carefully. He thought of every possible difficulty that might arise and left nothing to chance. When the plane, which he named *The Spirit of St. Louis*,

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rested at Curtiss Field on the morning of May 20, 1927, there was nothing about it that Lindbergh did not know and had not studied carefully.

It was just twenty minutes to eight on the morning of May 20, 1927, when Charles Lindbergh, with millions of people on both sides of the Atlantic thinking of him, slowly rose from the soft mud of the Roosevelt Field on the outskirts of New York, and set out on one of the most thrilling adventures in all history. The plane did not rise rapidly but mounted high enough for him to clear some tall trees on a hill and soon he reached Long Island Sound, where the Curtiss Oriole machine which had accompanied him from the field, with a photographer on board, turned back, and Lindbergh faced the journey of three thousand six hundred miles alone.

There was considerable haze for a time but this cleared and he made the three hundred miles from Cape Cod to Nova Scotia in good time. As he flew north he saw here and there patches of snow and to the eastward there was fog. He passed over St. John's, Newfoundland, and as evening drew on he could see the white icebergs shining with surprising clearness through the darkness.

There was no moon at first and it was very dark. Clouds were dense and it was risky to

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try to penetrate through them. Once, when he attempted to fly through a large cloud, sleet began to gather on his plane, and he was forced to turn back and get into clear air immediately. After that he flew around clouds which he could not climb. After a few hours of darkness the moon appeared and this greatly helped him.

He flew steadily on through the night. When the first gray streaks of dawn came, he saw broken clouds ahead, some of which he surmounted; in other cases he flew through them. Then holes began to appear in the fog and through one of them he saw the sea. He dropped down until he was within one hundred feet of the water and he could see the whitecaps dancing upon the waves. A blinding fog made it necessary for him to mount up again as high as fifteen hundred feet, but when it cleared he dropped down to near the water again; sometimes as close as ten feet.

He saw several porpoises in the water but for several hours no ships. His first intimation that he was approaching the European side of the Atlantic was the sight of a small fishing vessel; soon he saw others, and on one of them he saw a man's astonished face appear at the cabin window. He flew as near to the little ships as he dared and shouted: 'Which

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way is Ireland?' Evidently the men did not hear him as he got no answer.

Less than an hour afterwards a rugged and mountainous coastline appeared on the northeast. The shore, which was ten or fifteen miles away, was fairly distinct. A light haze, coupled with local storm areas, had prevented his seeing the land sooner, which, of course, was Ireland.

After passing over Ireland he saw several steamers and in about two hours' time he sighted the coast of England. Then he began the last lap of his journey towards France. Before long he sighted Cherbourg and very soon afterwards he saw the lights of Paris. This was about 5 P. M. New York time and 10 P. M. Paris time. He circled the famous Eiffel Tower at an altitude of four thousand feet and then flew towards Le Bourget, where he intended to land. He flew around the field once, then landed. His wonderful adventure was over, his great feat successfully accomplished. He had been in the air thirty-three hours and thirty minutes, had flown three thousand six hundred miles, and established a new and remarkable record.

The entire field where he landed was covered with thousands of people who swarmed around his plane like so many bees. He was concerned about his beloved plane and tried

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to get the crowd to keep back, but either they did not understand him or were determined to give him a glorious welcome at any cost. He started to get out of the cockpit of his machine, but was dragged the rest of the way and was then carried round and round the field for half an hour.

Lindbergh received an enthusiastic reception in France and this was but a forerunner of what was to follow in Belgium, Great Britain, and in his own country, the United States. Although but a youth he was the first airman to fly across the Atlantic alone and the attention of millions was directed towards him. Probably no man in all history received as much flattering attention as did Charles Lindbergh.

As soon as he could free himself from the mobs, he had a telephone conversation with his mother in Detroit, four thousand miles away. Then he called on Madame Nungesser, whose equally brave son had disappeared only a few days previously, in the Atlantic waters Lindbergh crossed. He completely won the hearts of the French people by frankly telling them that Nungesser and Coli had attempted a much more difficult feat than his, when they attempted to fly from Paris to New York. His modesty and charmingly frank disposition won for him a place in the hearts of the French

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people from the beginning. It would be impossible to mention here all the honours which came to Lindbergh during the next few months. The President of the French Republic pinned the Cross of the Legion of Honour upon his coat. It appeared as if every great organization in France wanted to do him honour, and no one was more surprised than Lindbergh, who was deeply touched and often quite embarrassed by so much praise. He lunched with Blériot, the first man to fly across the English Channel, who presented him with a piece of his plane. He had a notable visit from the great military leader, Marshal Foch. He visited the hospitals where invalided soldiers of the Great War gave him a great welcome, and then called upon Marshal Joffre in his home.

In Brussels he was cordially received at the royal palace by King Albert of Belgium. The King and Queen were both greatly interested in examining *The Spirit of St. Louis* and Lindbergh explained its technical features. The welcome of the Belgian people everywhere was enthusiastic and affectionate.

When Lindbergh landed at Croydon Field on the outskirts of London, it is estimated that he was welcomed by a crowd of half a million people. As in France and Belgium Lindbergh was received with unbounded enthusiasm and

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he had ample evidence of the good sportsmanship of the English people. In Westminster Abbey he laid a wreath on the tomb of the Unknown Soldier on which was inscribed: 'In memory of England's unknown warrior, from the American people.' On May 31st, he was received by King George V, who set aside all precedent and personally presented him with the Royal Air Force Cross. Later Lindbergh was warmly received and congratulated by the Prince of Wales and by the Hon. Stanley Baldwin, Prime Minister of Great Britain.

It would be impossible to write fully here of the welcome Lindbergh got in the United States. Indeed, from the standpoint of numbers and from the enthusiasm shown, he received the greatest welcome accorded to any man in history. In Washington, where President and Mrs. Coolidge officially greeted him, later in New York, then in Chicago and other cities, and in St. Louis, his home — it was the same everywhere, the enthusiasm of the people knew no bounds. In St. Louis ten thousand school children signed a petition asking him to visit his home city with the *Spirit of St. Louis*. People went wild over him. One New York newspaper alone received fifteen hundred poems about his wonderful adventure.

Throughout these weeks and months of

"THE FIRST FLIER TO CROSS THE ATLANTIC ALONE

flattering receptions Charles Lindbergh remained the same modest, unassuming and open-hearted American youth. Those who were close to him during these days declare that the way he kept his head and remained unspoiled and free from vanity was an achievement as great, if not even greater, than crossing the Atlantic alone. Not one in ten thousand could have done it; but it was a lesson in modesty that the world will never forget.

Since his daring exploit Charles Lindbergh has been continually in the public eye. His thoroughness, amazing skill and modesty have made him the best known aviator in the world.

